THIS WEEK'S National Petroleum NEWS

Coming Meetings

1933

Kentucky Petroleum Marketers Association, **Brown Hotel, Louisville, Feb. 21, 22.**

Illinois Petroleum Marketers Association, **Leland Hotel, Springfield, Ill., Feb. 22, 23.**

American Society for Testing Materials, group meetings, New York, March 6 to 10. New York regional meeting, March 8.

American Association of Petroleum Geologists, **Rice Hotel, Houston, March 23, 24, 25. Concurrent meetings: *Society of Economic Paleontologists and Mineralogists,* and *Society of Petroleum Geophysicists,* Rice Hotel, Houston.**

American Chemical Society, **Washington, D. C., March 26.**

Michigan Oil Men's Association, Statler Hotel, Detroit, Mich., March 29, 30, 31.

Western Petroleum Refiners Association, **Arlington Hotel, Hot Springs, Ark., April 5, 6.**

American Petroleum Institute Division of Production, Southwestern division, Rice Hotel, Houston, April 7, 8.

Petroleum Industry Electrical Association, Tulsa, April 13, 14, 15.

Oil Equipment and Engineering Exposition, **Texas State Fair Ground, Dallas, Tex., April 17 to 23.**

National Petroleum Association, Cleveland Hotel, Cleveland, O., April 20, 21.

Natural Gasoline Association of America, **Hotel Tulsa, Tulsa, Okla., May 15, 16.**

American Petroleum Institute, **mid-year meeting, Mayo Hotel, Tulsa, Okla., May 17, 18, 19.**

Virginia Oil Men's Association, Patrick Henry Hotel, Roanoke, Va., May 18, 19.

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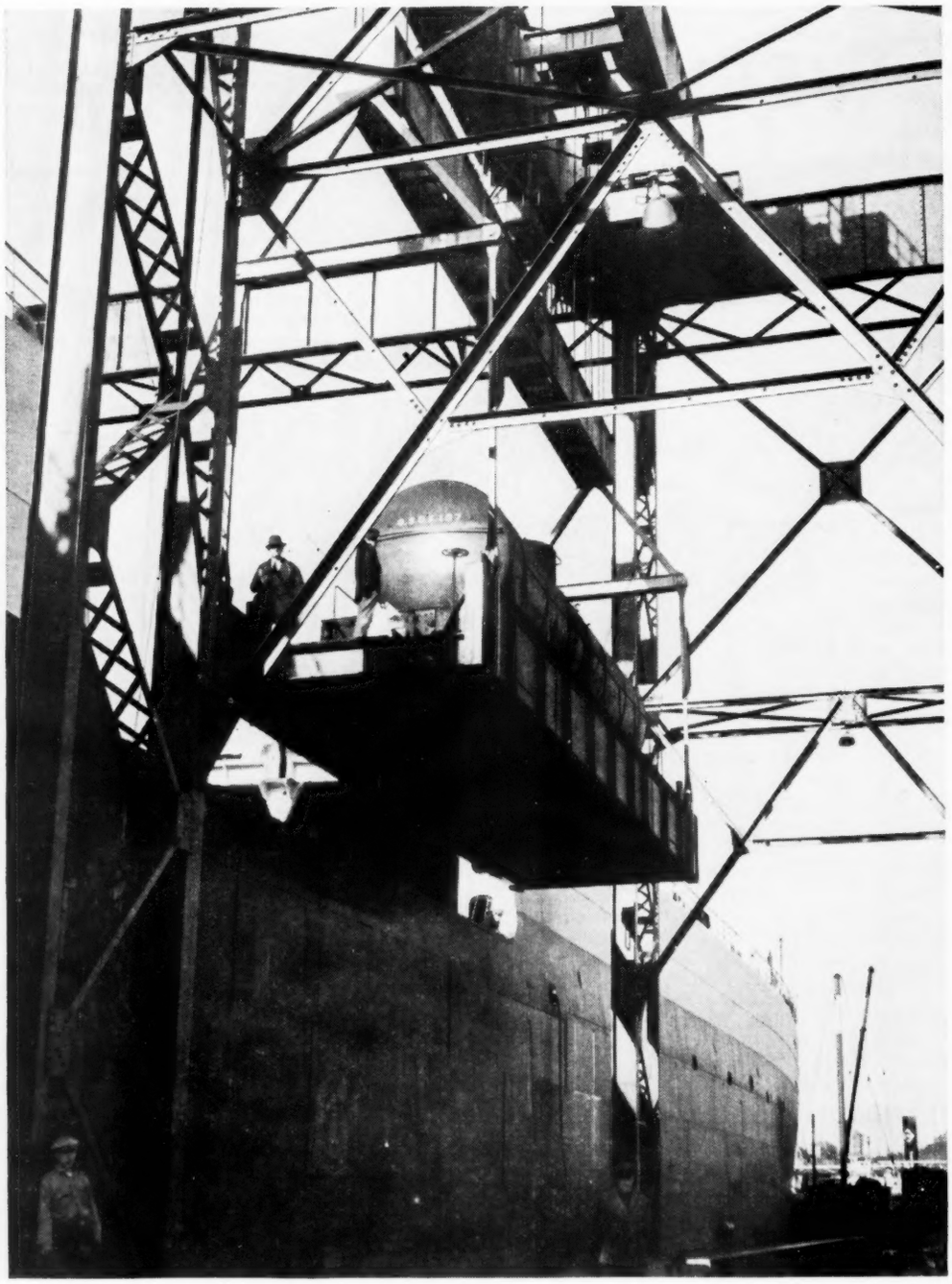
1933 Car Lubrication Data

THE large extra printing of the Jan. 25, 1933, Automotive Lubrication Number of NATIONAL PETROLEUM NEWS has been exhausted. To care for the continued heavy demand for the information in this issue, a 16-page reprint of the most important data in the issue has been prepared. Copies of this are available at 10 cents each, $6 per hundred while they last.

Included in the reprint are these articles: What the 1933 Automobile Requires in Lubrication; Rear Axles Requiring E. P. Lubricants; New Silent U Shackles on 1933 Models; Compression Ratios, Motor Speed and Horsepower Rise in 1933; Free Wheeling Dropped from Some 1933 Models; Extreme Pressure Lubricants, What They Are and Why They Are Needed; Automotive Lubricants and Their Specific Application.

Many jobbers and oil companies are supplying reprints of these articles to classes in lubrication schools, supervisors, lubricant salesmen and lubricant service men.



—By Ewing Galloway, N. Y.

LOADING a tank car on the "Seatrain" the latest type of ocean cargo carrier. On these vessels standard railroad cars of all types are loaded without disturbing the packing done by manufacturer or exporter. At the port of destination the cars are transferred to rail lines for delivery to consignees. On oil shipments barreling, canning or transfer by pump from tank car to liquid carrying steamer compartments is avoided.

Two of these Seatrains were built in 1932 by the Sun Shipbuilding and Drydock Co., each with a capacity of 100 freight cars. The ships operate between New York, New Orleans and Havana.

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"Overfilling" Shown to Be One Source of Loss in Gasoline Handling

By J. C. Chatfield
N.P.N. Staff Writer

CLEVELAND, Feb. 11

ONE source of considerable loss to marketing companies, large and small, in handling gasoline, it has recently been established, is the over-filling of cans, drums and truck tanks.

In the case of truck tanks, the cause of over-filling has been found to be, in part, the tendency of employes to fill the tanks beyond the calibration marks and, in part, the "settling" of tanks in use, resulting in their holding a larger volume than their rated capacity.

Many oil companies recalibrate their tanks frequently, on the advice of the manufacturers and the overage in volume is small for any compartment, or any truck tank as a whole. Yet, multiplied by the trips that vehicle makes over a year, that excess amount of gasoline given away by the oil company on each load amounts to a considerable number of gallons.

One Independent refiner-marketer reduced his bulk plant losses 26 per cent in one state by eliminating this one source of loss.

In the case of cans and drums it has been found by several oil companies that these containers average more in volume than their rated capacity. One company in Kansas, serving a considerable trade in steel drums to farmers, found its containers averaged from 46 to 60 gallons. They had been billing the customer for 50 gallons in each sale.

This company, with one station only, saved $85 a month by eliminating the giving away of gasoline on this class of deliveries.

These actual losses in volume, through dispensing more on the sale than the amount called for, are encountered, of course, in the sale of other products than gasoline. However, they show up in more startling fashion in gasoline handling than with other products, because of the greater amount of this product sold by the average oil company.

The fact that these losses do occur, in average oil marketing company practice, and their extent, has been established in the course of careful investigations some oil companies are now conducting to determine, in general, the cause of the losses the oil companies experience in the handling of gasoline, from the tank car to the motorist's tank.

These losses are magnified now through the fact the oil companies pay gasoline taxes on this volume lost, as well as paying for the material itself, thereby suffering a double loss.

The investigations now going on involve the measurement of all incoming and outgoing liquid from bulk tanks. They show that evaporation and leakage, which the industry has been blaming for most of its losses in handling gasoline are by no means the only culprits.

In this study of volume losses the oil companies are using meters to check the flow of liquid through bulk distributing channels from tank car to consumer. The meters provide records from which the management may discover where losses are occurring. To illustrate the sort of results that ean be gotten by careful checking:

An error of six gallons in the

FURTHER articles, telling of the experiences of oil companies in Kansas, in the use of meters to trace the sources of loss in handling gasoline, are to be found in this issue, pages 38 to 52.

Fuel oil delivery truck with hose reel for reaching customer's tank without driving truck on premises and meter for measured deliveries

operation of a bulk distributing station is a small matter. When the error happens enough times it becomes serious.

At one bulk plant of an Independent refining company it was discovered a 450-gallon, 3-compartment Ford tank truck was not accurately gauged. Each compartment actually held two gallons more than the marked capacity. That is only six gallons.

This little truck, however, makes an average of five loaded trips per day. The small loss of six gallons thus became an actual daily loss of 30 gallons. Operating an average of 300 days per year, the truck had been delivering 9000 gallons—more than a tank car—in excess of the amount charged against it.

At another bulk plant in the same state, the company has a tank truck driver who is an excellent salesman on a peddler route. In the summer he has a large trade among summer cottagers who use kerosine stoves.

A check of this driver's truck showed it held eight gallons more than the marked capacity when filled to the level indicator. Making four to five trips per day, and with the benefit of expansion in the summer, the driver of this truck was making about $300 per month, during the cottage trade season, in addition to his income from the payroll.

On a check of its tank truck facilities in one state this company found it has been delivering 100,000 gallons of gasoline and kerosine each year to its customers they have not paid for. This represented 26 per cent of the entire bulk plant losses of the company in the state.

This 100,000-gallon annual loss represented a state tax loss to the company of $4000, since state taxes are paid on tank car receipts and not on retail sales. In addition, there was a federal tax loss to the company of $1,000, and freight and product value loss bringing the total up to possibly $15,000.

As a result of the savings effected in the first state checked, this company is extending its investigation into other areas where it does business and is beginning a program of installing meters to keep a constant check on liquid movement.

When the meter at the first loading rack failed to agree with tank truck capacities, a thorough check of the meter was made. A tank was wiped completely dry, filled with seraphin measures such as are used by official sealers, and the level indicator set accurately. Then the tank was emptied and wiped out thoroughly again before the same volume of liquid was run into the tank through the meter. This procedure proved the meter to be accurate.

Bulk plant meter installation to check gallonage unloaded from tank cars into storage. A meter on unloading lines checked against tank withdrawals gives an accurate picture of the volume of liquid lost through evaporation and leakage

After every tank truck at this plant was recalibrated the company's maintenance truck, fitted out with accurate measures, was sent to other bulk plants where truck tanks also were checked.

In every case the company insisted the bulk plant manager and the tank truck driver personally watch the checking procedure. The process of checking a tank truck takes about four hours but the company wanted all employes to be convinced the new calibration was correct. Thus far no employe has registered a complaint.

To insure that level indica-

(*Continued on page* 49)

THE EDITORS' VIEWPOINT

Are Stockholders Restive at Absence of Profits?

By Warren C. Platt, Editor

YOU hear pessimists talk about a revolution in this country in the next two years. We listened to quite a financially successful pessimist talking that way. We did not agree. But the talk goes on and has its effect.

The oil industry is running at better than 90 per cent of its peak load. Therefore, there is no excuse for the oil industry not making a profit. Yet how many companies will not report a profit for 1932?

We submit to you that there is no excuse for an industry running that extent not to make a profit.

Much could be said on this but the best that can be said now is that we hope the stockholders of these big companies will rise up at their meetings this winter and spring and demand profits and dividends. There is no reason why they should not and there is no reason why they should not change the management, if necessary, to get the profits and dividends.

We like the heads of these companies tremendously personally, but we are also a stockholder in some of them and we do not like their non-dividend paying performances. We hope the rest of the stockholders feel the same way.

Profits in the oil industry will go a long way toward heading off this predicted revolution and they will go a long way toward bringing back prosperity in this country.

Let the stockholders of these oil companies start their own revolution. It will help materially toward making things "safe for democracy," etc., etc., etc.

• • •

Oil Industry Awaits The Next Step

DIRECTORS of the American Petroleum Institute took a commendable step in endorsing, by resolution at their recent meeting, the support by the entire oil industry of the oil states in their effort to enforce the present conservation statutes.

This is only a start in the right direction, however. If these same directors, the heads and leading executives of the principal oil companies of the country, are to let the matter drop there and go back to their desks in New York, Chicago and elsewhere, with the idea in mind that anything has so far been accomplished, it would have been better had they kept silent.

We have had too many resolutions and solemn pronouncements from the institute board, touching on the problems common to the industry, following which these same executives went back to their desks to handle the affairs of their own companies as each saw fit.

We believe a great number of oil men, large and small, over the country await evidence of leadership of a constructive nature in an effort to bring to the industry some degree of stabilization. Oil men and the public as well have a right to expect that leadership to come from among the executives of the principal companies. We believe there would be a well defined response from the industry at large to actual evidence that the men who endorsed by resolution the support of the oil states in their efforts to enforce the present conservation statutes, were bending every effort of their own to bring this about.

LAWS are enforced to the extent that public opinion desires them enforced. Public opinion in the oil states cannot be expected to become aroused for the upholding of the conservation statutes as long as there exists what seems to be a lethargy on the part of most of the larger oil companies in the matter. Some individuals with some of the companies have done a great deal in upholding the cause of conservation, as it now stands written into the laws in Oklahoma and Texas and Kansas. They have given of their time and energy. But the championing, for the most part, has come from the smaller interests.

It is likely that some of the institute directors who voted for this last resolution now being put before the industry at large, for its support, are not aware of all that goes on in their own companies, in relation to the proration program in the oil states.

They might consider themselves spending some time in the Mid-Continent, learning what has gone on under the name of proration and making it plain what their own attitude is in the matter, and impressing their own organizations throughout that a passive compliance with the proration orders will not suffice; that their own men must become active in the support of the program in every possible way.

No agreements or pledges among companies to support the states' proration programs are needed. Let the men who by their positions are looked upon as the leaders in the industry make the first business at hand for themselves and their companies the backing up of the state authorities in enforcing the present conservation statutes.

Alcohol-Gasoline Blend Bills Introduced In Congress

CHICAGO, Feb. 11

THE movement to provide farm relief through diverting part of the crop surplus to the manufacture of alcohol for use in motor fuel has spread rapidly into national prominence since it was first mentioned at a meeting one night early this year in a small town in north central Illinois.

Developments this week were:

Introduction into congress of two bills to require the use of alcohol in motor fuels, with a 10 cents a gallon additional tax on all non-alcohol fuels.

Introduction in the Iowa legislature of a bill with similar provisions.

A radio address Feb. 11 on the farm relief plan during the Farm Forum, a program of the National Broadcasting Co. carried by 41 stations.

The introduction of the bills Feb. 11 at Washington, each by an Illinois congressman, is regarded more as a political gesture than an attempt for action on farm relief. Both congressmen retire March 4. They are Representatives Morton D. Hull, Peoria, and William E. Hall, Bloomington. Their legislative proposals will not hold over, so any action will have to come through re-introduction in the next congressional session.

Iowa's attempt at farm relief through alcohol-gasoline motor fuel was forecast last month. The first step was to legalize the manufacture of alcohol. Both houses of the legislature passed the bill, and it was signed late this week by the governor.

Then came the measure to mix alcohol in motor fuel. The bill was introduced Feb. 7 in both houses of the legislature.

Proposed federal legislation would require the use of alcohol of 10 per cent by volume in motor fuel. Representative Hall's bill starts off with 10 per cent. Representative Hull's bill would require 2 per cent during the first 120 days, then 1 per cent increase annually until the 10 per cent mark is reached. The graduation is to allow the building of distilleries to supply the new alcohol market.

Both bills would tax motor fuels not adulterated with alcohol at 10 cents a gallon, in addition to any other taxes. The Hull bill is H. R. 14627, the Hall bill H. R. 14628.

The proposed Iowa bill hinges on the crop surplus. The state executive council would be empowered to administer the act, to regulate the production and sale of grain alcohol, and to prohibit the sale of motor fuel that does not contain the required percentage of alcohol. A $25,000 appropriation is asked to administer the act. Principal agent of the executive council would be an alcohol administrator.

National publicity was given the plan on the National Broadcasting Co.'s program, the Farm Forum, over the Blue network from 1:30 to 2 p.m., eastern standard time, Feb. 11. Paul Beshers, canning factory chemist at El Paso, Ill., the originator of the plan, was the guest speaker. The 41 stations were well scattered throughout the country.

In addition to the national and state proposed legislation, and the radio address of this week, the development of the plan has been aided by editorial support in newspapers. Favorable comment has been published in recent weeks not only in rural newspapers but also in those in cities.

Thus the movement started one night early in January in the town hall at Gridley, Ill., has traveled far. From a beginning of mass meetings among farmers in north central Illinois the farm relief plan has gained state and national recognition.

Financing has been done through contributions sought at these meetings. At the first meeting several hundred dollars were contributed from the floor, and through a box at the door.

So far oil companies have not committed themselves openly on the subject. Comment was sought by promotors of the alcohol plan in a letter to oil companies. It is reported that there is one supporting letter in Gridley, Ill., from the head of one of the large Oklahoma companies, marketing extensively in the farm territory.

Those in favor of the plan point out the new market that would be created for farm products. Corn, wheat, potatoes, sugar cane and sugar beets have been prominently mentioned as a source for alcohol. By diverting a portion of these products into the manufacture of alcohol the surplus would be taken from the market, the farmer would get a better price, and the farmers' buying power would thus be increased.

Opposition to the plan probably will hinge on the technical and economic angles of an alcohol-gasoline mixture. Experimental tests so far indicate a va-

Boyd Holds Witness Record

THE endurance record for witness stand sitting is claimed in Texas for William R. Boyd, Jr., native son and executive vice-president of the American Petroleum Institute. Mr. Boyd set his record at Austin in the Texas ouster suit against 15 major oil companies and two petroleum associations including the A. P. I.

In the eight weeks between Mr. Boyd's ascension of the stand Oct. 13 and his departure he uttered more than 1,000,000 words of testimony, more than twice the number of words listed in an unabridged dictionary. The transcript of what he said covered more than 2500 typewritten legal size pages. In addition he submitted 721 exhibits taken from the files of the institute.

riance in arguments for alcohol-gasoline fuel and actual performance.

One of the main difficulties is in getting the alcohol and gasoline to stay in a blend. Regular alcohol contains about 5 per cent water. To remove this water the manufacturing cost of alcohol is increased about 25 per cent, and the problem then is not fully solved in keeping the liquids in a blend in cold weather. Alcohol has an affinity for water, and can take it from the air in the automobile gasoline tank, or in storage tanks in the distribution system. Also, water is used in gasoline storage tanks to keep the gasoline level off the bottom of the tanks.

A mid-western state university ran a test showing that alcohol-gasoline fuel gave greater mileage than straight gasoline fuel. It has been suggested that a difference might come from carburetor adjustment. The alcohol-gasoline blend would be leaner, hence adjustment would be necessary to give comparable mileage figures. Oil company blend tests do not substantiate the increased mileage argument for alcohol-gasoline blends, and when a high percentage of alcohol is added there has been a decrease.

Carburetor changes also are indicated for the alcohol-gasoline fuel. Enlarged jets would be necessary, and the increase in size would make the jets unsuitable for straight gasoline. Some old type autos have cork floats in the carburetor and alcohol blends would destroy the cork. Corrosion of the fuel system also is another factor.

The economic angle also presents a problem. With corn at 25 cents a bushel, at the plant, alcohol can be made at a cost of about 20 cents a gallon. This cost price would be in competition with gasoline now selling at 2 to 3 cents a gallon at the refinery. A rise in corn prices would of course increase the cost of alcohol.

Large, centrally located alcohol plants would be necessary to manufacture at low cost, and to provide for water removal processing. In fact, alcohol plants now use molasses, a by-product from the sugar industry, at a lower cost than by using grains. From 10 to 15 per cent of the alcohol produced last year was from petroleum products, again at lower cost than from grain.

Other economic difficulties are those of increasing the bootleg problem, both motor fuel and liquor. Since alcohol separates from gasoline in the presence of water the liquor bootlegger could buy the new type motor fuel, separate the liquids and have alcohol for Chicago gin, and gasoline for his delivery car.

Legislative proposals so far would tax straight gasoline 10 cents a gallon. Experience shows that the higher the tax the more incentive offered for evasion, and a 10 cent additional tax will increase difficulties.

General Motors Corp. Cancels Free Lubrication Plan

DETROIT, Feb. 13

GENERAL Motors Corp. March 1 will cancel its plan of giving 12 free lubrication jobs with all new Buick, Oldsmobile and Pontiac cars, according to an announcement by R. H. Grant, vice-president. The announcement confirmed rumors current a week ago and published in the Feb. 8 issue of NATIONAL PETROLEUM NEWS.

Hupp Motor Car Corp. which recently adopted a similar policy, has made no announcement as to whether it will follow the lead of General Motors in cancelling it. It is understood the company is considering the matter and will reach a decision this week.

The sales division of the National Automobile Chamber of Commerce is to meet here Feb. 14, at which time the automobile sales managers will discuss methods which may be used to get car owners into the dealer service departments for frequent periodic inspections without adopting business practices that may be criticised by the oil industry. Decision as to its future policy will be made by Hupmobile after this meeting.

Present indications are that Hupmobile may not reverse itself and abandon the free grease plan since it seems to the company to hold possibilities for keeping the dealer in touch with the new car buyer during the important first year of the car's life.

No statement was issued by General Motors as to its reason for abandoning the free lubrication plan. It is known, however, that the company values the good will of the oil industry highly and hesitated to continue a policy which many in the industry considered as unethical according to the oil industry's marketing code.

Rogers, Imperial Director, Dead

TORONTO, Feb. 13.—The death recently of Albert Stephen Rogers, director of Imperial Oil, Ltd., ends a long association of the Rogers family in Canadian oil marketing. He was 73 years old and death followed an illness of 18 months.

His father, Samuel Rogers, created the oil distributing business of Samuel Rogers & Co. in 1878. Mr. Rogers was the last survivor of this company. In 1896 this company, together with several other oil enterprises, had become the Queen City Oil Co., Ltd., and in 1912 it was acquired by the Imperial company, with Mr. Rogers in charge of the eastern and western Ontario marketing divisions. At the same time he was elected to the board of directors.

Cuts Car Fees

TULSA, Feb. 11.—A bill passed by the Kansas legislature slashing passenger automobile tag fees 50 per cent has been signed by the governor, according to reports here. The bill also reduces registration fees for light trucks and increases those for heavy motor carriers.

Flood of Tax Proposals Continues in States

CLEVELAND, Feb. 13.—Flow of new tax bills into various state legislatures seems endless. In addition to the states already listed as having chain store tax proposals are New Hampshire, Pennsylvania and Connecticut. To those which propose sales or similar taxes levying against gross receipts of business must be added Texas and Indiana.

States legislators continue to offer a wide variety of truck regulatory proposals. Few conform in dimensional details with the Association of State Highway Officials standard code.

Transportation department heads of the California oil industry are watching with some concern a proposal now before the State Legislature to tax trucks on a mileage basis, and another bill that provides for redrafting the present California vehicle act and establishment of a vehicle code.

Senate Bill No. 125 institutes a license tax on trucks, trailers, or semi-trailers, whose weight including load (gross weight defined) is three tons or more. Such vehicles used for transportation of property and not exempt from registration fees would pay a license tax according to mileage.

For vehicles using fuel subject to gasoline tax the rates would be:

Truck or semi-trailer between 3 and 4 tons gross weight, $0.002 per mile. This increases with weight. Between 10 and 11 tons it is $0.009 per mile and ranges upward to $0.015 per mile for trucks or semi-trailers of 16 tons or more. Trailers of 3 to 4 tons would pay $0.0025 per mile with the rate graduated upward, ranging at $0.013 per mile for trailers of 10 to 11 tons and $0.022 for units of 16 tons or over.

For vehicles not using fuel subject to gasoline tax: For truck, semi-trailer or trailer between 3 and 4 tons, the rate would be $0.0045 per mile. This would range to $0.015 per mile for trucks, semi-trailers, or trailers of between 10 and 11 tons and to $0.024 per mile for units of 16 tons or over.

If the license tax is paid as a minimum monthly sum for each vehicle, the rate would be $1 for truck, semi-trailer or trailer of 3 to 5 tons, $3 for units of 9 to 11 tons, and $6 a month for units of 15 tons or over.

The above rates refer only to vehicles equipped wholly with pneumatic tires, those equipped with other than pneumatic tires would pay twice these amounts.

Income under the new law would go for highway and street building and maintenance.

No change from present weights and dimensions are included in the proposed change in the motor vehicle code.

Oil Creek to Build New Distillation Unit

TITUSVILLE, Pa., Feb. 15.—Oil Creek Refining Co. will build a new 1500-barrel distillation unit at its Titusville plant. The unit will be used for processing Pennsylvania grade crude.

Alco Products Co. has been given the order for the new unit. Fabrication will be at the Dunkirk, N. Y., plant of American Locomotive Co. The plant is expected to be in operation within about three months.

Lubrication is Subject Of Spring Symposium

CLEVELAND, Feb. 11.—A symposium on motor lubricants will be the technical feature of the regional meeting of the American Society for Testing Materials, to be held at the Hotel New Yorker, New York City, March 8, 1933. The regional meeting will be held in conjunction with the spring group committee meetings to be held Mar. 6 to 10, at the same place.

The Technical Committee on Motor Oils is arranging the program covering newer developments in motor lubricants, and the more highly specialized nature of lubrication as developed during the last few years. The papers are expected to present information of the greatest importance to refiner, motor manufacturer and automobile user.

The program is planned as follows:

Chairman: T. C. Smith
Co-Chairman: H. C. Mougey

Afternoon Session—2 p.m., March 8.

Present Concepts of the Relation of A.S.T.M. Pour Test to Service Requirements of Oils.—J. L. McCloud, metallurgical chemist, Ford Motor Co.

Viscosity of Automobile Crankcase Oils as Related to Service Requirements.—E. W. Upham, chief metallurgist, Chrysler Corp.

Carbon Deposits in Gasoline Engines.—W. A. Gruse, senior fellow, Mellon Institute of Industrial Research.

Service Changes in Crankcase Lubricating Oils.—M. A. Dietrich, graduate student, Ohio State University.

Evening Session—8 p.m., March 8.

Oil Consumption in Motor Car Engines.—W. H. Graves, chief metallurgist, Packard Motor Car Co.

Factors in Engine Design Which Affect Oil Performance.—A. L. Clayden, research engineer, Sun Oil Co.

Aircraft Engine Lubrication.—Arthur Nutt, vice-president in charge of engineering, Wright Aeronautical Corp.

Gulf Considers Building Canadian Refinery

TORONTO, Feb. 11.—Gulf Refining Co. of Pittsburgh, is negotiating for a site for the establishment of a large oil refinery at St. John, New Brunswick through Putnam Bros. of Houlton, Maine, who now market Gulf products in the province of New Brunswick, as well as in their home state.

The site under discussion is located at East St. John on the property of the St. John Harbor Commission.

The initial cost of the proposed new plant is said to be in the neighborhood of $750,000 and provision will be made for expansion.

Propose Suspending Anti-trust Laws

WASHINGTON, Feb. 14.—With a view to enabling business to break the vicious cycle of downward spiralizing prices, Representative Cable of the Lima, O., district has introduced a bill, H. R. 14583, to suspend the anti-trust statutes by authorizing agreements the parties to which undertake not to sell at less than cost.

Refiners Urge Lower Ethyl Standard Under New Motor Test Method

By Arch L. Foster
N. P. N. Staff Writer

CLEVELAND, Feb. 11 AT LEAST 15 refiners who are blenders of Ethyl gasoline have failed thus far to renew their contracts with the Ethyl Gasoline Corp. The delay in signing arises from a difference of opinion as to the minimum octane number requirement of Ethyl gasoline under the proposed new method of test.

Refiners believe that they will have to use more Ethyl fluid to meet the new standard without being able to charge more money for the finished fuel.

Under the new Co-operative Fuel Research Motor method developed last year the Ethyl Gasoline Corp. found that its standard reference fuel, against which all Ethyl gasoline is compared, showed an octane number of 76 as compared with 78 under the so-called Research method formerly used. The company thus proposes to make 76 the standard after April 1.

The new Motor method shows a greater differentiation between cracked and Ethyl gasoline than the Research method. Cracked gasoline used as a blending stock for Ethyl fluid has a lower octane number under the new test method greater than 2. This will make it necessary for the refiner either to use more cracked gasoline or more Ethyl fluid to meet the standard it is claimed.

Refiners who have thus far failed to sign new contracts are urging the company to drop the standard to 74 or 75, so that manufacturing costs will not be increased.

On the other hand accurate tests by Ethyl laboratories show their standard fuel to be 76 octane number under the new test and the company takes the view that any lower figure would be an actual lowering of the standard and not merely assigning a different number to fuel of the same quality.

All members of the Great Lakes pipeline group are reported to have withheld signatures from the new contracts pending further negotiations. These include Barnsdall Refineries, Inc., Mid-Continent Petroleum Corp., Pure Oil Co., Continental Pipe Co., Phillips Petroleum Co. and Skelly Oil Co.

Other companies engaged in negotiating a different standard are said to include Producers & Refiners Corp., Simms Oil Co., Deep Rock Oil Corp., Root Refineries Inc., Anderson Prichard Refining Co., Champlin Refining Co., Texas Pacific Coal & Oil Co., Shell Petroleum Corp., The Texas Co., Tide Water Oil Co., Socony-Vacuum Corp., and Atlantic Refining Co.

Kanotex Refining Co. has signed the new contract but is understood to be asking for reconsideration. Two or three Louisiana refiners are reported to be postponing signature.

Although Ethyl Gasoline Corp. believes the new standard to be fair officials considering the problem say they desire to arrive at a "fair and equitable agreement."

ETHYL Gasoline Corp. is asking that the stipulated time of four months, given in the contracts as the minimum notice period for change in the details of the agreement, he shortened to three months. This is in order to make the new contracts effective at the same date, April 1, as that when the new method is planned to become effective as a tentative standard, a concession which most refiners appear to consider logical, as it may prevent confusion in test methods.

Discussion of the proposed adoption of the new test method is spreading over the country, since the two problems are inseparably connected in the refiners' minds. Dissatisfaction with the new method and its effect on cracked gasoline ratings is leading many refiners to oppose its adoption. Members of the committee which developed it believe it is the best that can be used at present and that its use will give more exact ratings in terms of commercial engine performance than any other available.

That the present interpretation of the test data obtained on 14 cars with 11 motor fuels last August by the committee is misleading, and that a careful study of these data show that, in many cases, a majority of engines check the old Research method better than the new Motor method, are some of the claims being made by opponents of the proposed adoption of the method by Committee D-2 of the American Society for Testing Materials.

THOSE in favor of adopting the method as a tentative standard state that the old method was changed purely and purposely to give test results comparable with relative performances of fuels on the road, and that the new method does agree substantially with road performance. The ultimate test of quality is the performance which the motorist realizes on the road, they say.

The old Research method was as nearly a perfect laboratory test, especially as to the apparatus used—the engine—as could be developed, technologists claim. There is the difficulty; the Research engine is so superior to commercial engines in its design, that results of using fuel in the former did not show clearly or relatively what that fuel would do in the commercial motor.

The prime requisite of a measure, a yardstick, they say, is that it's results be interpretable in terms of the use of the material measured; otherwise its use is misleading. This is claimed to be the case when motor fuels are measured by the Research method. It was necessary to so change the method that the results in laboratory

test agree substantially with road test indications. The changes made in the engine and its operation make of it a power unit more nearly similar to commercial engines, members of the C. F. R. committee claim.

Opponents of the new method state that, while the data presented give correct arithmetical averages of the knock ratings of the fuels in the 14 test cars used, that more ratings fall above the average than below it. In other words, the average was pulled down unduly by a minority of cars, thus placing undue weight on the bad performance of these cars of obsolescent design.

The result would be to induce the committee to develop a method agreeing with this average which would be totally unfair to the majority of cars and of fuels marketed, penalizing the refiner into producing fuels of higher knock rating than is necessary for good performance.

STUDY of the test data shows that about half the test cars gave fair agreement with the Research method. The variation with this group is from 0 to 8 octane numbers, with an average of three octane numbers for the Motor method below the average of the Research method. The other half of the group of cars shows a depression of as high as 29 octane numbers, with a mean of nine. The worst car in the group showed a variation between the two tests of from six to 29 octane numbers.

In view of these facts many technologists believe that the method should not yet be adopted as a tentative standard, but that further study, and tests with more recent engines of improved design, should be carried out to permit development of a test which would give a fair rating on all types of fuels.

Those who have voted, or expressed themselves as in favor of adopting the Motor method state that they are aware that the method is far from perfect, that considerable variation in ratings exists, and that cracked gasoline is possibly penalized unduly in comparison with straight-run and Ethyl fuels. They repeat that is necessary and desirable to use a method which rates fuels in the same relative manner as do the cars on the road, as road performance is the criterion of the motorist who operates a single engine and draws his conclusions from that alone.

Probably the best feature of the new test, they say, is that the information gathered during the test has "shown up" the design of many engines which are decidedly faulty, and which operate poorly on fuels which are generally known to be first class.

AT LEAST two motor designers are reported to have taken advantage of the data and the disclosures regarding the effect of engine design on detonation to improve their engines in the 1933 models, with the result that these engines more nearly approach the performance of the Research engine.

It is believed in many circles that this result will hasten improvement of engine design, and will be the greatest advantage in using the new method, especially in comparison with the old test. Claims are made that a test similar to Uniontown Hill, made on this year's cars, will show a decided change in results on the test engine, and that the details of the test will be changed to more nearly approach those of the Research method which opponents of the motor method wish to retain.

It has been pointed out that, with present models of cars, some fuels, high in cracked material, do not show up on the road as well as straight-run and "doped" fuels of the same Research method rating. This will have a tendency to discredit cracked fuels, they say, when the motorist buys a cracked fuel of a stated rating and finds poorer performance than when using a relatively uncracked or "doped" fuel of the same rating.

The information obtained by comparing the two methods, it is stated, will hurry the changes in engine design which will give the same performance with either cracked or uncracked fuels with equal ratings by the Research method, and thus will eventually improve the position of cracked gasoline, rather than impair it.

Opponents of the motor method adoption believe that the tests conducted last summer are not sufficiently representative of the average of all cars in operation, and that the method has been formulated with insufficient data as a basis. It is claimed that only two cars out of the original 17 check within 5 per cent of the motor method. Three cars originally presented for use in the tests were ruled out, as were two fuels. One fuel was too good, one too bad to use, they say, the three cars eliminated would not knock on any of the fuels.

It is claimed that, if these fuels and cars had been used and their results included in the averages, the results would have been more representative and that the resulting changes in the test method would not have penalized cracked fuels as does the present test.

C. F. R. committee members emphasize the fact that the Research engine is far ahead of commercial engines in its design. They refer to it as an "instrument of precision," rather than a power unit. They admit that the Motor method engine is far below the Research engine in quality and performance; that the Research engine was "butchered" in various details to make it perform in line with commercial engines. They state that the method must be changed frequently and that these changes will be in the direction of the Research method.

One member of the committee thinks the method will be changed within the year, and probably yearly thereafter, to keep in unison with engine development. It is claimed that the use of this method, as a tentative standard is the quickest and best way to get back to the more accurate and better Research method of test.

Opponents state that these reasons make it inadvisable to adopt any method which is known to stand in need of such frequent revision, that such revisions as are obvious in the near future should be made before its adoption as tentative standard.

Major Companies Blamed for Number Of New Stations Built

By E. L. Barringer
N. P. N. Staff Writer

DES MOINES, Feb. 8

THE cause of overexpansion in the building of service stations in recent years was laid at the door of major oil companies by A. C. Gienapp, jobber at Ft. Dodge, Iowa, in an address before the Iowa Petroleum Association's convention in Des Moines Feb. 7 and 8.

Oil companies stopped building stations several years ago, he told the convention, yet stations continue to come into the business. These outlets are built by individuals, out of employment, lacking experience, and urged to get into the business by salesmen of the major companies.

Fort Dodge, a city of 20,000, saw ten new stations built in 1932, he continued. This is the greatest number ever built in one year. At least five of these ten are for sale already, and one has reverted to the lumber company that supplied building materials.

Mr. Gienapp cited the case of an ex-railroad employe who approached him about building a station. This railroader had figured on the cost of the building, but he did not know that oil companies would furnish the equipment. Mr. Gienapp advised the railroader to purchase an existing outlet.

Then a representative of a major company talked to him, the speaker continued. This salesman told the railroader all about free equipment, time payments on building supplies, and that by taking on his company's brand the customers would be plentiful, at least to the extent of 400 to 500 gallons of gasoline daily. "Don't believe Gienapp," the salesman said. "He doesn't want you as a competitor."

The railroader built the station, free equipment, partial payments for supplies. At the latest check it was falling short of the 400 to 500 gallons estimated business, was selling only about 40 gallons daily.

A new method for basing retail prices in jobbers' contracts was suggested by Arch Stafford, Quaker Petroleum Co., Omaha. Instead of writing in "price made by the Standard Oil Co." he suggested that the board of directors of the association determine the margin between tank car and service station.

Jobbers then could base their retail prices in contracts on that set by the association board. In turn, the association secretary would notify members when a change was authorized.

Mr. Stafford urged jobbers to stop "living in the house by the side of the road" and to get out into the stream of business; not to rely on slogans to get business but to be the buyer for customers instead of an outlet for a manufacturer. Fine laboratories were open to jobbers in nearby big cities, he continued, where they would have the benefit of facts on the products they sell and not grope in ignorance of their merchandise.

A surprise speaker on the marketing program was L. F. Kuehnle, head of the former Leader Oil Co., Dubuque, Iowa. Since selling out some six years ago Mr. Kuehnle has been traveling by auto all over the country, and spoke of his impressions of service stations and of those of fellow tourists.

A tourist stops on an average of four times daily, he continued, and the stations that get his patronage are those having clean rest rooms and cold drinking water. His conversations with fellow tourists indicate they prefer the major company stations for uniform quality of products and clean rest rooms.

To obtain tourist patronage Mr. Kuehnle suggested roadside signs to attract customer's attention. These signs should have the exact mileage to the station, as a tourist is particular in checking up mileage reports.

Examples of good signs were "Clean rest rooms at Such-and-such a station, exactly — miles," "Cold ice water," "Stop at Such-and-such a station for a drink of cold, pure well water," "Stop and Gas with us," "Service with a Smile" and similar service signs.

The gasoline is purchased from one to ten miles before the tourist reaches the service station, he continued, and jobbers should not forget that the wife and children have more to say in selecting a station than the husband.

Mr. Kuehnle also suggested the handling of one or two nationally advertised oils to attract the tourist patronage. Tourists do not care about the name of the owner of the station, or the name of the town,

Iowa Petroleum Assn. 1933 Officials

President, Charles Rohr*, Log Cabin Oil Co., Mason City.

First vice-president, P. A. Jessen*, Nelson & Jessen, Exira.

Second vice-president, J. A. Johnston*, Johnston Oil Co., Eldora.

Third vice-president, A. J. Hart, Hart Oil Co., Elma.

Treasurer, Harry Fee, Fee Oil Co., Waterloo.

Secretary, M. L. Long*, Des Moines.

Directors: F. A. Black, Black Oil Co., Anita; H. B. Canty, Canty Oil Co., Danbury; Paul Clark, Clark Oil Co., Jolley; J. M. Cushman*, International Oil Co., Des Moines; Chris Jacobson, Britt Oil Co., Britt; R. S. Jordan, Skelly Oil Co., Omaha; F. R. Ladd*, Deep Rock Oil Corp., Des Moines; A. L. Lommel*, Bartles-Shepard Oil Co., Waterloo; R. E. Maloy, Redding Oil Co., Redding; Tom McDonough, Home Oil Co., Williamsburg; Geo. E. Schumacher, Iowa Oil Co., Dubuque; A. L. Sharbondy, Sharbondy Oil Co., Sibley; P. A. Purman*, Cities Service Oil Co., Sioux City; Frank Whitney*, Home Oil & Gas Co., Cedar Rapids; H. C. Wurster*, Mid-Continent Petroleum Corp., Waterloo.

***Re-elected.**

but they do know about some nationally advertised oils.

Another speaker on merchandising, Arthur Brayton, trade paper editor in Des Moines, continued Mr. Kuehnle's remarks on signs, by pointing out that the signs recommended concerned the wants of the customer and not the merchandise the jobber wanted to sell. Think of what the customer wants instead of what you want to sell, he said.

The technical side of marketing was discussed by two speakers, R. R. Matthews, Battenfeld Grease & Oil Corp., Kansas City, traced the development of extreme pressure lubricants. He told of the early work on the hypoid gear and the worm gear, of testing machines devised by various companies, and the recent work of correlating laboratory tests with road tests.

J. Howard Pile, editor of the Chek-Chart Corp., Chicago, talked on modern lubricants, the need for these lubricants to do specialized work, and the need for merchandising such service.

Joe Walker, Morrison Brothers, Dubuque, Iowa, told jobbers they were in the best business in the country today. He spoke of the benefits of an organization, and said he would welcome the day when a federal law would compel every business man to be in an organization.

Friendship breeds mutual respect, he continued, and you have a different view of your competitor once you know him.

New Ford Has 6.33 to 1 Compression Ratio, Aluminum Cylinder Head

DETROIT, Feb. 11

THE 1933 Ford V 8 with high compression, more powerful motor and a larger, longer streamlined body made its bow today. Since the body worker strike has been settled production of the new models will be on a quantity basis shortly.

The motor uses the same block as last year with 3 1/16-inch bore and 3¾-inch stroke. Power output of the motor has been raised to 75 horsepower at 3800 r. p. m. Last year the engine developed 65 horsepower at 3400 r. p. m.

Greater power output has been achieved by increasing the compression ratio and using an aluminum cylinder head. Compression ratio of the new model is 6.33 to 1. In 1932 the ratio was 5.5 to 1. Combustion chamber design has been changed to give greater turbulence.

Compression pressure of the new motor is 138 pounds at 1800 r. p. m. as compared with 114 pounds last year.

With the aluminum head it is claimed that the motor will operate well on ordinary grades of gasoline and that gasoline consumption will be less. From 14 to 19 miles per gallon of gasoline are claimed, depending on the driver.

Rubber engine mountings are now employed which have greatly improved the quietness of the car. It is said to be capable of a top speed of 80 miles an hour. The high compression and improved engine characteristics have provided more rapid acceleration.

Wheelbase of the new model is 112 inches, an increase of 6 inches. The bodies themselves are 11 inches longer, however, due to more compact engine and radiator arrangement. There are 14 body models.

The new frame has an X-type cross member and is of the double-channel, double-drop construction. The exterior appearance has been considerably altered with a slanting radiator grille, skirted fenders and domed body lines. A one-piece casting is used for the cylinders, crankcase and exhaust passages. This method of manufacture is claimed to provide a rigid engine with accurately aligned bearing surface. It also permits of a short, rigid crankshaft.

As far as is known this model does not employ the cast iron crankshaft which, it is expected, will be used in the smaller eight that is to be announced later.

The car follows Ford practice with torque tube, drive and transverse cantilever springs. The shackles are of the self-lubricating insulated type. Four double acting, self-adjusting shock absorbers are provided. The transmission is a sychronized type with silent second. A three-quarter floating rear axle with straddle-mounted pinion is employed. The brakes are 4-wheel mechanical type. Twenty-five ball or roller bearings are employed in the car. The tire size is 5.50 x 17 inches. Five wire wheels are standard.

The engine is fitted with aluminum pistons and has a down-draft carburetor with intake silencer. The counterbalanced crankshaft weighs 65 pounds and has cranks at 90 degrees. The cylinders are offset. An automatic spark advance is provided. The water capacity of the cooling system is 22 quarts and the lubricating system has a capacity of five quarts of oil, unchanged from 1932. Gasoline tank capacity is 14 gallons.

The bodies are all-steel, the windshields are safety glass and the driver's seats are adjustable. The upholstery is optional broadcloth or mohair and in the de luxe models Bedford cord is supplied. All closed models have dome light and the de luxe models have two taillights, two horns and arm rests in the rear compartment.

Will Buy Stored Oil

HOUSTON, Feb. 10.—Subject to acceptance on or before Feb. 28, Humble Oil & Refining Co., has announced it would purchase 25 per cent of the net storage oil in East Texas held for account of producers and royalty owners by Humble Pipe Line Co., as of Feb. 1, at the posted field price of 50 cents a barrel.

The Humble also announced it would also pay the ten cents a barrel pipeline gathering charge previously assessed against the oil, but that any other accrued charges would be deducted. The offer does not affect continuance of the Humble policy of buying 60 per cent and storing 40 per cent of East Texas crude oil runs from company wells.

Industry is Called on to Support Enforcement of Proration

NEW YORK, Feb. 11

AFTER two weeks' deliberation on the general production situation, starting at a meeting of the executive committee Jan. 25, directors of the American Petroleum Institute Feb. 8 adopted a statement of principles which calls on the industry to co-operate with authorities in the oil producing states to enforce proration.

Two members of the board, heads of important oil companies, issued public statements in which they stressed the importance of the industry working with the state authorities to make proration effective.

H. F. Sinclair, chairman of the executive committee, Consolidated Oil Corp., warned that proration was making its last stand; that, if the present laws cannot be enforced, other corrective measures must be adopted. He said, however, it was encouraging to find a large part of the oil industry, particularly the major companies, united in facing the facts of the situation. His statement concluded:

"It is worth pointing out that this declaration of principles is not an agreement in any sense: it is a conditional statement to which the leaders in the industry have subscribed. To make it effective requires not only more thorough enforcement but absolute good faith in performance by the oil companies themselves. The stand taken by the institute should have an important effect in securing the co-operation of the oil companies in enforcing the orders of conservation commissions, and, as the statement says, in avoiding 'any and all acts which would directly or indirectly circumvent or tend to defeat such orders.' There is also more than a mere suggestion that if proration orders are enforced, all legally produced oil should find a market at the publicly-posted prices. With bootleg oil out of the picture, we shall be on the road to much sounder conditions."

Said R. C. Holmes, president of The Texas Co.;

"If there is any merit and value in the declaration of principles adopted on Feb. 8 that has not applied to previous declarations in one form or another, it is in the fact that all the 13 members, except one, were present in the executive committee meetings and more thoroughly discussed and analyzed the domestic as well as the world conditions which have resulted in the unsatisfactory state of the industry; and that they and the members of the board who were present at the board meeting on the 8th were unanimous in subscribing to and adopting these principles."

Mr. Holmes stated the cause of the present low markets was not allowable production in excess of market demands, but production in excess of the allowables and in excess of reported amounts. He said allowable production in this country is sufficiently low to avoid any excess over requirements during 1933 if proration were fully enforced.

His statement contained the practical suggestion that the amounts of oil taken by the crude purchasers from producers be held constant from month to month, the buyer storing the excess over actual requirements in the winter and taking from storage during the summer when refinery runs are heavier. He said it imposed a hardship on producers to ask them to cut back their production to actual requirements in the winter.

J. B. A. Kessler, joint managing director of the Royal Dutch-Shell group, a visitor in this country from Europe, was a guest at the meeting of the institute directors. He told the heads of the oil companies here that, unless the crude situation were straightened out in this country, its influence would make itself felt in foreign producing countries, particularly Roumania and that conditions in Roumania would be reflected in Persia.

The statement of principles adopted by institute directors was:

"(a) In a broad and general sense the measure of market demand is the consumption of refined products.

"(b) Current production should not exceed this demand and should make some allowance for withdrawals from storage, which is now excessive.

"(c) Producing capacity being already far in excess of consuming requirements, there is no public interest in developing new pools, and, therefore, production from new pools should be restricted to the utmost limit permitted by the laws of the States.

"(d) Both in the interest of conservation and the prevention of waste the production of stripper wells should be the last restricted.

"(e) After allowing for the production of stripper wells and the utmost restriction of new pools, the intermediate existing flush pools should be so limited as to bring the total production in line with the total market requirements.

"(f) The production for each state should be prorated as between pools on a fair basis, and the production of each pool should be prorated between the property of producers on a fair and equitable basis.

"(g) In order for this program to succeed it is absolutely necessary that the lawful orders of the State Commissions be rigidly enforced and every person engaged in the industry should assist the Commissions in enforcing such orders, and should avoid any and all acts which would directly or indirectly circumvent or tend to defeat such orders.

"(h) If the States adequately enforce their conservation laws, the effect should be the marketing of all oil produced at the competitive prices which from time to time are publicly posted.

"(i) The subject of domestic crude oil production is inseparably related to the production

of other countries, and in order to apply these principles and make them effective in the United States it is necessary for similar principles to be applied to the production of crude oil in other exporting countries.

"(j) In addition to this, the important subject of the gasoline tax and gasoline tax evasion cannot be omitted from the picture. The gasoline tax has reached a point where the motor vehicle because of this and other taxes is now paying approximately 10% of the total tax burden of the United States, including Federal, State and local subdivisions, and on an average more than 40% of the revenues of the States. This burden has already reduced the consumption of gasoline, the purchase of new cars, and the number of cars in use is now at least 3,000,000 less than three years ago. Gasoline which escapes the tax destroys the competitive price structure determined by economic conditions and this in turn reacts on the conservation program in the same manner as the surreptitious production of crude oil.

"Fixing" for Illegal Production Told in Oklahoma Hearing

OKLAHOMA CITY, Feb. 11 SERVICE was finally obtained on Ray C. Walker, who has been missing since the Oklahoma senate committee began its investigation into proration enforcement in the Oklahoma City field.

Walker, who says he is a second cousin to Mrs. William H. Murray, wife of the Oklahoma governor, had been identified by several witnesses as a member of a so-called insurance firm whose real business was in handling "hot" oil, or illegal production. He was missing when the committee wanted him.

The trail was picked up and early last week C. A. Burns, head of the state bureau of criminal investigation, admitted on the stand he had sent one of his operatives to Dallas to bring Walker to Oklahoma City. This was done, he said, at the instance of the governor, and that, when Walker reached Oklahoma City, Col. Cicero I. Murray, who has charge of militia enforcement of proration in the field, was notified.

Walker was missing when Burns testified. He played hide-and-seek with the committee for several days, finally was located in a warehouse in the field by the senate sergeant-at-arms, was brought in. He told the committee that he was the "master mind" in the conspiracy. (Associates that have been named include A. W. Parker, E. C. Duncan, George A. Stephens on the Walker side; Bob Galbreath and Mark Kleeden, associated with the R. A. MacArthur, Inc., producing enterprises on the field end of the deal.)

Dictograph Record Corroborated

By Telegraph

OKLAHOMA CITY, Feb. 14.—At a night session of the Oklahoma senate investigating committee the dictograph record of the hotel conversation of Ray C. Walker was corroborated by Mark Kleeden and Bob Galbreath of R. A. McArthur, Inc.

Kleeden testified to an arrangement with Walker for the payment of 10 cents per barrel on "hot" oil run. Later, he said, troops bothered him once but on complaint to Walker's partner, the troops were withdrawn. Galbreath said $18,000 was paid covering 180,000 barrels of oil run.

H. G. Marshall, president of Marshall Oil Co., testified that he was approached by Lieut. Paul Hillyer, formerly of the militia but now an employee of the senate, who offered to permit overproduction at 10 cents per barrel.

Earlier witnesses had testified that they had heard Walker boast that he had Cicero I. Murray "fixed." Two stenographers had said they had seen Murray accept money from Walker. The latter denied this. Confronted with a dictograph record of a meeting in a hotel between Walker, Kleeden and Galbreath, Walker denied that the record was true.

This bit of espionage was allegedly arranged by Herbert K. Hyde, U. S. district attorney, who was trying to check up for the federal income tax people on presumed big earnings of the "ring." Present in an adjoining room were Hyde, Senators Ross Rizley and Woody Dixon, of the investigating committee, and a stenographer.

The record of the three-cornered conversation had Walker saying, "They can't prove that I ever gave Cicero a nickel. The thing to do now is to protect Cicero. We've got to go in there and help him. Cicero would do anything in the world for us. They've been trying to bribe me to testify against Cicero. I won't do it. They don't want us, they want to get the governor. I don't think they can impeach the governor. You don't know Cicero, you have never met him. They can't prove that I know Cicero. I have only met him three or four times."

There was much more in the same vein. Walker asserted he didn't say the things ascribed to him, that, if he had ever said them, he "was either drunk or crazy."

After hearing Walker's testimony, the governor repudiated him. He said that he ordered his servants last August not to let Walker come on the premises of the executive mansion or to the office.

The other prong of the hearing, reflections on the corporation commission, was developed further through witnesses who said they had been associated with Walker. Witness Phillip Flaxman the week before had told of a scheme to bribe two members of the commission to rescind proration orders for 10 weeks. E. C. Duncan, who formerly was associated with Walker, corroborated this. Negotiations were carried on with E. D. Hicks, Jr., then secretary of the commission, Duncan said. Hicks resigned immediately after Flaxman's testimony became public.

The scheme came to nothing, Duncan said, because Flaxman

failed to raise the $100,000 which both said was the agreed price for "lifting" proration. Duncan brought into the limelight briefly Jon. O. Maberry, county judge at Sayre, Okla., friend of Flaxman. He said the judge had met with the alleged conspirators.

Judge Maberry was called in, admitted that he did meet with Walker, Duncan and Flaxman. He said he told them all along it was a silly scheme, that even if the commission rescinded its proration order in Oklahoma City, the governor would "shut all the wells in within 15 minutes." He said he considered the whole thing a "hot air" idea of Flaxman's who, in reality, was merely collecting expense money from Walker.

All of which, of course, doesn't explain where Walker got his money. He set up his offices in July last year, was without funds when he started. Walker admitted that he got as much as 10 cents per barrel, naming only the MacArthur wells as the ones from which the "hot" oil was coming, vaguely said that he drew this commission because he knew how to get around the soldiers, denied that he bribed them.

Blown sky-high was the governor's attempt a week earlier to discredit the investigation by sending to the senate an affidavit by N. F. Poor, former member of the national guard. In this affidavit, the assertion was made that Sen. Woody Dixon had attempted to bribe Poor to testify. Six witnesses were called in, testified to substantially the same thing: That Senator Dixon had been called into a meeting of independent operators held in the offices of S. M. Stauffer; that Poor had come in and talked about how much he knew of conditions; that he called Dixon into an adjoining room where they talked for a minute or so; that Dixon returned, red with anger, and told the others that Poor had offered for $2500 to give his testimony and that he, Dixon, had told him to "go to hell."

The attorney who drew the affidavit, Leon C. Shipp, was brought in, said he had called Poor into his office to see whether at the meeting any mention had been made of his client, the Clark Pipe Line Co., and that he had written into affidavit form the assertions Poor made about Sen. Dixon. This he then gave to Poor and told him to give it to Cicero I. Murray.

Shipp's client, the Clark Pipe Line Co. is headed by Frank Clark, paroled from the state prison by the governor. It operates a small gathering system in the Oklahoma City field.

Administration senators on the committee began during the week to try to show that improper orders of the corporation commission and not the enforcement by Cicero Murray were to blame for much of the alleged overproduction.

Procedure in Enforcing Proration Clarified by Court Decision

By Lawrence E. Smith
N. P. N. Staff Writer

TULSA, Feb. 11

TWO recent decisions by the supreme court of Oklahoma must be regarded as companions in considering the status of proration in the southwest. The first came down Jan. 31 and held that district courts have authority to enjoin violators of proration orders of the Oklahoma Corporation Commission, the state's regulatory agency.

The second, announced Feb. 7, limited the scope of military enforcement of proration orders.

Slowly the maze of judicial procedure as related to proration is being simplified. In these two decisions the court has clarified the situation in a degree that has not been done before in Oklahoma. Some lawyers go so far as to say no additional legislation is required, now that district courts have been empowered to act.

The decision in the appeal of the Russell Petroleum Co. case, commonly known as the martial law case, which was handed down Feb. 7, was awaited with much interest. While Gov. Murray had repeatedly said that he is above all courts, except the U. S. Supreme Court, and could not be questioned by what he termed "inferior" courts, the Oklahoma supreme court took another view. It held that even state district courts have authority to grant relief against the militia, where the latter is interfering unlawfully with property.

The Russell Petroleum Co. last summer, in district court of Oklahoma county, asked for injunction against the corporation commission, its members individually, and against Cicero I. Murray, in his individual capacity and as lieutenant colonel commanding the Oklahoma national guard forces in the Oklahoma City field. The Russell properties had been shut down by the militia. The district court, with three judges on the bench, held it had no power to enjoin the corporation commission or the governor.

As to the first proposition, the supreme court agreed. The state constitution says that remedial action against the corporation commission must be an original action in the supreme court. That court, and no other, may review either the so-called legislative acts, or orders, of the commission and the judicial orders of that same commission issued pursuant to its legislative acts.

On the martial law-militia enforcement of proration, the supreme court found the district court had erred. It said:

"Under the provisions of Art. 6 and Sec. 1, Art. 4 of the constitution, no order, proclamation, or decree of the governor of the state as the chief executive thereof, has the force of law, the law-making power of the state being vested exclu-

sively elsewhere . . . . . In part, the two executive orders are legislative in character."

The court spoke directly upon the assessment imposed by order of the governor on producers in the Oklahoma City field to pay the expenses of the militia. As penalty for non-payment, the governor provided that wells of the producer failing to pay should be shut in. The assessment began June 21 with one-fourth of a cent per barrel production, was subsequently raised to one-half cent and still later to a full cent. It has been one-half cent since Jan. 1. Said the court:

"That order did not purport to be under any authority conferred by law on the corporation commission. The corporation commission had no such authority. The legislature is required to provide for the maintaining of the militia . . . . . There is no authority of the chief executive of this state to levy, or to direct that there be levied, an assessment on any person, firm or corporation, either as a tax or as an expense for police and military regulation, or to close producing wells or direct that they be closed for failure or refusal of the operator thereof to pay such an assessment."

REFERRING to the decision of the U. S. Supreme Court in the case brought in Texas against the use of the state militia by former governor Sterling, the Oklahoma supreme court said it was argued that that decision did not apply in the present case, for the reason that the facts in the Texas case showed that its governor sought to limit production otherwise lawful, and that the governor in Oklahoma sought to limit production to the amount that might lawfully be produced. The Oklahoma court said there was nothing in the record to show that the plaintiff company was attempting to unlawfully produce oil.

The question as to whether or not it has unlawfully produced oil and the question of whether or not it has attempted to unlawfully produce oil are questions of fact to be determined as a part of the due process of law to which the plaintiff is entitled under the due process clause of the constitution of Oklahoma, said the court further. Neither the chief executive nor the military of this state may determine either question.

The case was returned to the trial court with directions to proceed in conformity with the views expressed in the supreme court opinion.

This decision, it will be noted, is not a direction to the governor to remove the militia from the field. It indicates, rather, when coupled with the earlier decision that the procedure to be followed in enforcement of orders of the corporation commission is substantially this:

The commission may apply to a district court for injunction against an operator thought to be violating the orders. The earlier decision, in the Wilcox Oil & Gas Co. case, held that district courts may issue such injunctions.

Such relief in the court would constitute due process of law and the governor then, if the court be unable to enforce its orders, may properly make use of the militia in assisting the courts. The corporation commission itself is empowered to act as a trial court, under the state law, and may issue orders shutting in wells. While the supreme court did not pass upon the validity of this question, it may be presumed that such an order, issued after hearing the facts in the case, would be one that the militia might properly aid in enforcing.

It is clear, however, that the militia may not, at the direction of its commanding officer or the governor, enter upon a property and take possession of it, in the absence of either court or commission order. That procedure has been followed in some cases, when the militia found wells being produced in excess of their allowable and forthwith shut them in.

As to procedure in the courts, it is a one-way street. The corporation commission may go into district court to end violation of its orders, but the operator may not complain in the same court against the commission. Appeal from an order lies directly to the supreme court.

Gov. Murray quickly asserted the majority opinion of the court was wrong. Col. Cicero I. Murray said that all he had been doing was enforcing legal orders of the commission.

An outstanding practical question, though, is that of the expense of the militia. No operator, under this decision, can be compelled to pay the assessment. Whether enough operators will pay it voluntarily to realize the amount of money necessary to maintain the national guard force, is not known. The matter is not ended immediately, of course, for petition for rehearing probably will keep the question alive for several weeks.

Prepare for Tariff Fight In Next Congress

WASHINGTON, Feb. 14.—Admitting that there is no hope for an extension of the excise taxes on imports of petroleum and its products beyond June 30 next in the two and a half weeks of the remaining "lame duck" session of this Congress, officers of the Independent Petroleum Association are making plans for resuming the fight for retention of those taxes in the special session President Roosevelt is expected to call to meet about the middle of April.

The hope with respect to the coming Congress is that the necessity for revenue and the demand for tariff duties high enough to prevent the swamping of the domestic market by Russian, Japanese and other foreign goods will be coercive enough to assure continuance of the existing taxes if they are not increased. The petroleum taxes are the only ones that have not been distinctly disappointing.

It is probable that decisions will be reached in conferences before the special session comes into being as to how the fight will be carried on. Russell B. Brown, counsel of the association, with his staff, will continue the Washington office. However, there will be questions of policy to be decided in

view of the change in the administration.

Abandonment of the historic low tariff stand which was made by Alfred E. Smith in the course of the 1928 campaign has made it relatively easy for Democratic members of Congress to support protective proposals. The party's stand on the tariff now is for "competitive tariffs" although there has never been an authoritative definition of such tariffs.

Stanolind Opens New West Texas Field

HOUSTON, Feb. 11.—Opening of a new oil field in the West Texas region has resulted from drilling of Stanolind Oil & Gas Co., producing subsidiary of Standard Oil Co. (Indiana) on the Todd ranch in northern Crockett county. Stanolind's No. 2 test flowed 20 barrels in two hours at 1462-1463 feet. Its No. 1 Todd ranch deep test on a unitized block in which Stanolind owns 40 per cent was running tubing to total depth of 8041 feet in gray lime in a third effort to gain Siluro-Ordovician pay production. Swabbing tests at 7357 and 7735 feet had failed.

A deep Ordovician test for Pecos county, six or seven miles west of the Yates field, will be drilled by Humble Oil & Refining Co., on the White & Baker ranch.

Ordovician production in West Texas so far has been confined to the deep pay levels of the Big Lake field, Reagan county, yielding high grade crude oil at 8200-9100 feet.

Egloff On Air Feb. 20

CHICAGO—A series of four weekly broadcasts by members of the Chicago section of the American Chemical Society has Dr. Gustav Egloff, director of research, Universal Oil Products Co., Chicago, listed as a speaker Feb. 20, at 6:15 p.m. through station WCFL.

Dr. Egloff will speak on the chemistry of gasoline and oil. These programs are presented by the Adult Education Council of Chicago.

Harder to Enforce than Prohibition Says Agent, of Proration

HOUSTON, Feb. 10

OIL proration regulations were described as harder to enforce than prohibition in testimony before a legislative inquiry into the railroad commission's administration of the Texas conservation statutes.

R. L. Knight, now an investigator for the commission, formerly of the Department of Justice prohibition squad, also said there had been virtually no increase or decrease in proration law violations for three or four months. Knight termed "a mistake" reports recently issued to the effect the situation in East Texas is well in hand.

Homer Pierson, the commission's chief deputy supervisor in the East Texas district, described the oil movement for Feb. 4 from East Texas as: actually checked through pipelines, 271,771 barrels; through tank cars, 26,242 barrels; estimated runs short pipelines, 30,000 barrels; estimated runs to local refineries, 16,500 barrels; total estimated and actually checked, 344,513 barrels. Storage runs were estimated at 23,620 barrels, leaving net production 320,893 barrels, 30,893 barrels in excess of the proration allowable of 290,000 barrels.

Pierson's testimony supplemented that of W. J. Halloran, another commission employee, and sought to show that the conservation agency had a record of all oil moved from East Texas. Holloran, in charge of the checking local refineries, developed that 16 of the 32 plants in the field are operating under protection of court injunctions; and the commission is unable to check oil received by them or to trace its source.

Halloran said he believed each plant with a restraining order was using crude produced in excess of proration allowables, but he described the quantity as small compared with total production of the East Texas field, as the refineries, he said, were using only an average of 22,000 barrels daily.

Knight testified that most of the present proration violators in East Texas are the same ones who were violating commission orders when he first went into the field several months ago. Some of them have repeatedly disobeyed commission orders, he said, even after court injunctions had been obtained by the state against them.

While the legislative investigation was going ahead in capitol circles, under authority of a house resolution, the Texas federal and state courts were acting on attempts of the attorney general's department to strengthen enforcement in the field.

In Travis County district court at Austin, Feb. 9, injunctions were issued restraining seven East Texas operators from violating the commission's orders. Defendants are Danciger Oil & Refining Co., P. B. Goodwin, Roger Lacy, Theodore Cash, Sam Coleman, W. A. Brown and H. E. Preston. L. B. Manley, another East Texas operator, was cited for contempt on allegations he was violating terms of an earlier injunction.

At Fort Worth, Federal District Judge James C. Wilson restrained six East Texas operators from producing in excess of commission allowables and three of the same operators from interfering with commission agents in gauging oil and inspecting properties.

Restrained from producing in excess of commission allowables were Dinham Oil Corp., David B. Read, Central Oil Corp., Saco Corp., Pittman Oil Corp., and East Texas Oil & Refining Co. In addition, Central Oil Corp., Saco Corp., and Pittman Oil Corp. were restrained from interfering with commission gauging and inspecting of properties.

The PANORAMA of PETROLEUM In The MID-CONTINENT

By Lawrence E. Smith
N. P. N. Staff Writer

THE mail brings in a "Banish Depression Plan." All one has to do to improve his fortunes, the circular says, is to sell a bridge set (game, not suspension bridge) and by means of the endless chain formed by everybody selling bridge sets to each other, a good hustler, sharing in the commissions of all others, can earn up to $100,000. The Banish Depression Co. had headquarters at Bartlesville and the circular says that an official of the Phillips Petroleum Co. in that city is making more than $100 per week. To us, this seems like the complete destruction of the technocracy idea and the unemployment problem is now solved.

* * *

Through sale of the V. O. E. refinery at Gladewater, the sovereign state of Texas now owns a refinery. The plant was sold by the sheriff of Gregg county to satisfy judgment obtained by Attorney General Allred of $31,000 for alleged delinquent gasoline taxes. It was bid in by representatives of the attorney general and the state comptroller for $5050.

This plant has caused a great deal of worry the past year, as the reputed handler of oil produced in excess of proration allowables.

* * *

William R. Boyd, Jr., executive vice-president of the American Petroleum Institute, has finally finished speaking his little piece for Attorney General Jimmie Allred, in Austin. His testimony runs about 2500 typewritten pages and he gave the attorney general 721 exhibits. A. P. I. attorneys then put in a few exhibits of their own, about 230 of them. All this is a little preliminary skirmish to the Allred suit against 15 oil companies and two trade associations growing out of the "code of ethics." Trial date for the main event has not been set.

* * *

C. C. Julian, the big oil stock salesman, was missing in Oklahoma City on Feb. 6 when trial of his case for using the U. S. mails to defraud was called in federal court. He had earlier written to an Oklahoma City newspaper saying that he would not be present. The letter was sent from Canada. Three bondsmen will share the $24,000 loss.

This does not stop the attempt to put him in jail for his Oklahoma City promotions, as the government will file new charges on which he can be extradited from any treaty country—if he is found. A number of lesser lights in the Julian scheme entered nolo contendere (I shall not contest), and were given jail sentences and fines.

* * *

Corporation commission of Oklahoma continued two cases on its docket to March 1, both involving complaints of overproduction. The Wirt Franklin Petroleum Co. is charged with having exceeded its allowable production the latter part of December by 185,000 barrels from five wells. The other case is that of the Eason Oil Co., against which complaint of having overproduced by 215,000 barrels from three wells was filed late in 1932.

* * *

Interpretation of the power and authority of the Oklahoma Corporation Commission in the field of conservation is now before the supreme court of that state. Arguments, in the nature of a rehearing of the Wilcox Oil & Gas Co. case was had more than a week ago and an early decision is expected.

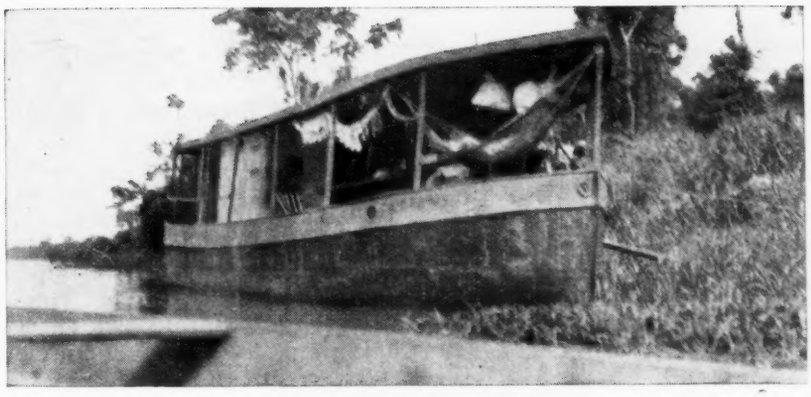
Decision of the court on application of this company for injunction several weeks ago left the commission confused as to the kind of orders it can write. The whole question of proration drags along, but in time the court will have defined the scope of state authority, under the present law. The legislature, however, probably will enact a new law and a new set of questions will be raised.

The governor has indicated that a bill is being prepared to submit to the legislature, taking enforcement of proration out of the hands of the commission and vesting it in the governor, providing for an advisory board to act with him. The commission would be a fact-finding body, writing orders in accordance with the facts, and the governor would see that the orders were enforced.

* * *

EXHIBITS filed by the Mid-Continent Oil & Gas Association in opposition to the proposed gross production tax law in Oklahoma contain startling figures on losses in producing oil. The proposed law would retain the present three per cent tax, but would provide that the tax should not be lower than three cents per barrel.

"In 1931," says the report, "when the effect of reduced prices began to be severely felt, it was ascertained from this survey that the average cost of production per barrel, before adding capital charges, was $1.13, and after including such charges the net total cost of production was $1.30. The revenue received from the oil produced in this year was $0.65 a barrel. (Oklahoma, only, is included in the report.) Thus, while the revenue decreased almost 50 per cent, (from 1930), the utmost in economy measures could only decrease the cost of production less than 10 per cent, and the industry lost in this year at the rate of 48 cents per barrel before including interest and other capital charges, or a total of $75,224,752 for the entire state. After including such capital charges, the industry operated at a net loss of 65 cents per barrel."



The yacht on the Amazon

From a Geologist's Portable

By L. G. Huntley*

"They shall splash at a ten-league canvas with brushes of comet's hair."—KIPLING.

PITTSBURGH Pa.
Jan. 30, 1933.

Dear Larry:

I have just returned from a geologists' paradise, especially so in these days of economic difficulty, with a hundred geologists for every rumour of a hidden anticline. Why waste time and eat one's heart out, with a great unexplored region full of new types of structures, oil seepages which no man has yet seen (at least no rock-hound), and best of all, where one can live on indefinitely at the rate of four cents a day.

Of course there is a little difficulty in getting down there; but thereafter—what more ideal way to weather out this period of over-production. There may be the little difficulty of leaving a family and perhaps some creditors holding the bag—but when did a true Tropical Tramp allow such matters to handicap him.

For various reasons, one of which was to beat the rainy season on the Upper Amazon, I went from Miami to Lima by plane. There has been a change in travel methods since the old days of 1908—first the rough trip around Hatteras, then the Panama Railroad, and finally a little dirty coastal steamer to Callao.

Last October I embarked at Miami in a 44-passenger four-motor hydroplane about 10 o'clock one morning. We landed among the keys on the north coast of Cuba, to wait for a rain squall to pass, then crossed the island in bright sunshine, with lunch at Cienfuegos. In the afternoon, a few hours flight took us to Kingston, Jamaica, and the Myrtle Bank Hotel, with a long Planters' Punch.

The next morning there was a 5-hour water jump from Jamaica to the mouth of the Magdalena River in Colombia, where we had lunch at Barranquilla. The wife of an oil man was traveling with a small baby, and enough sterilized milk for the trip.

Then changing planes, we skirted the Colombian coast to the Canal. The last hour was along and among the little rocky islands of the San Blas, with sudden rain squalls and sun, and a rainbow, so that the coast gave the impression of a misty Japanese print. (This is not a blurb for the Pan-American Airways, but if they consider I am entitled to pass it will be gratefully accepted).

That evening I stayed at the Washington Hotel in Colon, on the site of the Old Washington where I formerly occupied a small room on the top floor and listened to the palm fronds rattling on the corrugated iron roof, when the hotel was an old frame structure during the construction days.

Today it is rather difficult to get a bottle of wine at the Washington. When I suggested the matter to the West Indian waiter, as usual he explained that they did not serve alcoholic beverages, but added that he could send out for anything I liked. And as usual he explained that this would not take very long. Actually the bottle was on the table before the dinner appeared, and as it was raining outside, I seriously doubt whether anyone went further than the cellar. I wonder if they call it the "medicine chest," and if someone has to sign a prescription as they do on some passenger steamers of American registry.

The next morning there was another change of planes to a smaller two-motor amphibian. Will Rogers was on board that day, looking somewhat tired after the usual late dinner which appears to be his fate at all stops.

About two hours south of Panama City the plane ran into dirty weather, with no visibility. While flying about 50 feet

READERS of NATIONAL PETROLEUM NEWS a decade ago remember with pleasure the many delightful letters by Mr. Huntley describing experiences in far corners of the earth to which geologists are sent in the quest for future oil reserves.

Times have changed some, and with them the geologist's mode of travel over at least part of the way to the scenes of his explorations. Mr. Huntley has gotten out his portable typewritter again, to tell of a paradise for geologists in a day when their services are not in as great demand as they might wish—a paradise where one can live for four cents a day.

*Huntley & Huntley, Pittsburgh, Pa.

above a rough sea, in a half gale, one motor suddenly went out. There was a lurch, and one wing seemed to almost touch the water, then a rapid attempt to climb, the motor meanwhile coughing and sputtering. Somewhat later, the coast was sighted again and then we were back over Panama.

While I was wiping the sweat out of my eyes, Will Rogers asked what town that was below and seemed surprised at the answer. He had been asleep! After changing ships, as we had lost three hours' time, we only flew as far south as Tumaco that evening. I had lived in that town in 1910, and had not seen it in the interval. My uneasiness was unfounded, as I found that all my old friends and creditors had died since then.

The sanitary arrangements of Tumaco, which is located on an island at the mouth of the Mira River in Colombia, have been completely revolutionized, and some American plumbing supply salesman must have made some money (and some American bondholder is holding the sack). A birdseye view of the island as of 1910 is shown on the accompanying sketch, (Fig. 1) which will give a hint why I did not eat fish for some years later.

There was some difficulty in taking off the next morning, so in order to lighten the ship the pilot decided to leave the wheels behind. Later instead of following the coast, he headed inland over mountains for Guayaquil. I knew those mountains, and try as I would I could not see enough water to land on in case of necessity. However, we did not need the wheels and made a safe landing on the river at Guayaquil, and later on the bay at Talara in Peru.

There a Ford Tri-motor land plane was waiting; but as we were late, the last two hours before arriving at Lima were flown after dark. The clouds come in from the sea after nightfall, so that nothing could be seen of the city until the ship dived through them just over the Base. Then the lights of Lima suddenly spread out before us, and a few minutes later we landed, and I was thankful to find the Hotel Bolivar open. Will Rogers still had to attend

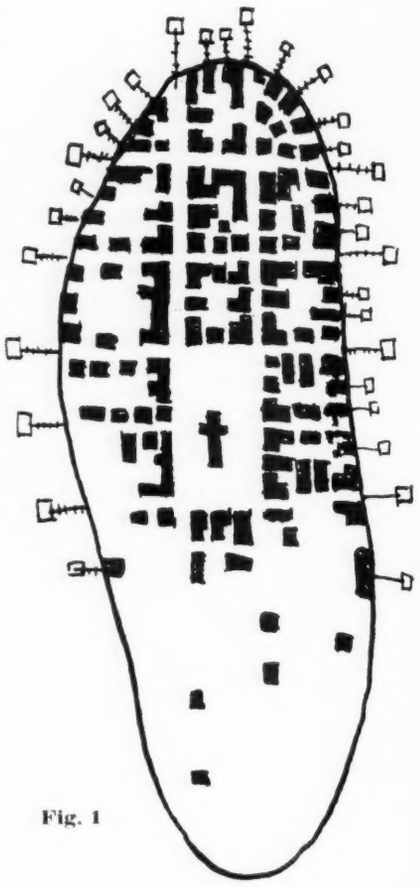


Fig. 1

his usual banquet, after filing his daily paragraph with the cable office.

The next few days were spent arranging for the trip "over the Hill" as the Cerro de Pasco bunch call it. The medico said the heart was all right (insurance solicitors lay off!), and over I went. From Lima I was accompanied by a Peruvian engineer assigned by the Ministry to this duty. I may say here that the Peruvian engineers and Peruvian air pilots are the world's best fellows when the going is rough.

We stopped over night at Tarma, on the east side of the main range. This is a quaint highland town, which has changed very little in the past few hundred years. Bare-footed Indians with bright-colored ponchos, burros, llamas, eucalyptus trees and irrigation ditches, blue sky and white clouds—all as I remembered similar towns when I lived in Ecuador 20 or more years ago.

The little mountain hotel was typically "serrano," with a half dozen heavy hand-woven blankets on each bed. The bread was the usual soggy mountain variety due to the altitude. I began to get a sentimental thrill out of the setting, as the years fell away, when suddenly there was a great blare of modern jazz. The proprietor today is an ex-employe of Cerro de Pasco, an American who has taken this method of waiting out the depression. He had imported a particularly vicious variety of Radiola, which was bringing the incongruous outside world to the Garden of Eden.

The next day we left down the Chanchamayo Valley on a spectacular mountain road for the airport at San Ramon. Traffic on this road is always one way, down-hill one day and up the next. In spite of this, landslides and rains and perhaps the rum known as "mataburro" occasionally causes a car to plunge a thousand feet or so into the gorge. The little crosses along the highway mark many of these spots.

At the airport we found there had not been a flight for several days, and all ships were waiting for the weather to clear in order to move consignment of machine guns, rifles, and officers' ladies over the big river.

It seemed doubtful whether they would consider a couple of engineers, more or less, necessary to the progress of the "war" with Colombia. However, after the exchange of wires with Lima, and the return of the commandante (an old friend) to the Base, we were finally taken along with a shipload of gasoline and first sergeants. We arrived without incident, after flying over the eastern range of the Andes with emergency fields about fifty miles apart.

The mail launch was waiting at the river port, as all down-river planes were held up for lack of gasoline. So we rated a cabin on the launch, and spent the next six days adjusting ourselves in a cross-section of the population of the river country. This included army officers with their ladies, soldiers of fortune, small merchants, ranchers, a school teacher with a portable typewriter, three monkeys, several parrots, and a live nutria which occupied the shower bath.

The lower deck was occupied by second class passengers,

Their action is as smooth and gentle as the curve of this line

Type 102 Loading Valve

Here is a loading valve whose closing action is so gentle that it prevents all shocks to fittings, pumps and instruments. The plunger is controlled both in opening and closing by means of a *cross-head pin*, which travels on the *spiral control cam*. This perfect control makes it impossible for the valve to close with a bang. Type 103, for terminal location, has the same plunger control as Type 102. Type 26 and Type 25 (corresponding with Type 102 and Type 103, respectively, but built for gravity systems) may be provided with this new cross-head pin plunger control by using the same body and simply making minor changes.

Patent Applied For

Patent Applied For

Type 150 Nozzle

This new Wheaton Nozzle—for delivery lines having pump pressures—assures a perfectly gentle, smooth, even flow of either oil or gasoline, and eliminates all sputtering and spraying. It has *dual valves*—a primary valve and a secondary valve. When the trigger is pulled the secondary valve opens first, starts the flow and relieves the pressure. When the trigger is pulled further, the primary valve opens and permits full flow. When closing, the valves operate in reverse order: first, the primary valve closes, and then the secondary — eliminating all hammer and chatter.

Western Branch Distributors: Mechanical Products Corp.
516 East 4th St., Los Angeles, Calif.
Canadian Mfrs. & Distributors: Empire Brass Mfg. Co., Ltd., London, Ont.

A. W. WHEATON BRASS WORKS, NEWARK, N. J.

Wheaton

FAUCETS - VALVES - JOINTS - COUPLINGS - FILLERS - NOZZLES - FITTINGS

several swine to furnish meat for the trip, salt fish stacked like cord-wood but less fragrant, and all the rest of the freight with supplies for the troops.

Most of the passengers slept on deck in hammocks, as did the crew. We stopped frequently to take on more supplies for the military, and still more frequently for cord wood for the engine. This was called an "express" boat, and it was explained to us that it would stop for *nothing*. However, as the owners were a firm of Hebraic merchants at Iquitos, the temptation to do a little trading along the way was too much, and the mail contract did not pay much anyway.

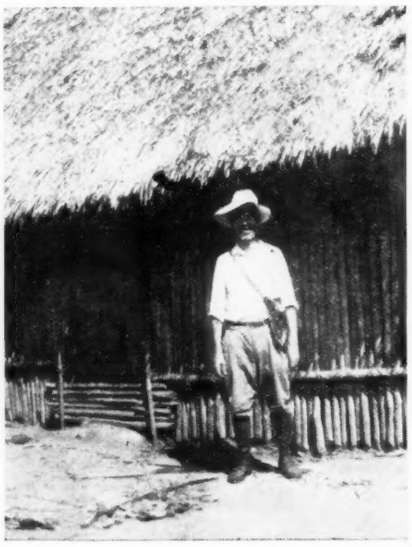
Fortunately, the rainy season still held off, and the trip was pleasant. After the hammocks had been rolled up on the morning, and a cup of cafe negro, the passengers began to get acquainted. Someone produced a bottle of "cachasa," or aguardiente. Some eggs were bought at the next stop for seven cents a dozen. A sickeningly sweet punch was concocted which helped the social atmosphere. Pineapples, alligator pears, water-melons, oranges, and occasional wild game, helped out the fare on board. The cook was a particularly good one. So we finally reached Iquitos one evening.

The old Malecon Palace hotel had just had the rooms repainted, and there was water in the showers. The Continental restaurant has all that one could wish in the way of clean table-cloths and napkins, good service and good food. I am afraid I am reverting to a subject too frequently, but the table wine is also good, at about 20 cents a quart; but if you don't watch out they will fill the glasses with cracked ice. (N. B.—Also the beer).

The next few days were spent arranging for the trip up river. We had expected to use a government plane, but these were all reserved for the military under the war emergency. Incidentally there was no war, but the colonels* were having a great time, nevertheless.

*This was the first "war" in my experience with no generals about the place.

A young lieutenant of artillery who had come down river with us, had just received an ultimatum from his fiancee in Lima that she would either marry him at once or break off the engagement. According to tradition, the girls in Iquitos have a penchant for officers. Well, the lieutenant was willing, so the marriage was solemnized by radio, and we acted as witnesses for our friend. The lady could then in all propriety journey to meet her husband, when she could not travel to meet merely a fiance, with the risk that he might be stolen before she arrived.



The geologist who didn't want to come back

The town of Iquitos is composed principally of people descended from the adventures who came in on the crest of a series of rubber booms, starting in the seventies. As a result there are a surprising number of tow-headed children for the tropics. One old character who struts about has the reputation of having been the most notorious rubber hi-jacker of the good old days. They tell of his having held up several large consignments of $1.00 rubber as it was being rafted down the river by the owners, whom he killed. He accumulated a large fortune for those days, and built a castle in Spain where he returned. A fondness for "pinto," the Spanish form of "craps," lost the fortune and the castle in his old age, and he is back in Iquitos being supported by two families of daughters, all school teachers, one family legitimate and one left-handed.

After chartering a small wood-burning launch, with a barge to live on, we started upstream again for the Maranon River. The captain who had a government license, received $17 per month, the pilot and the chief engineer, also licensed men, received $20 per month each. Food for the officers, and crew, and ourselves cost us four cents per day per man.

On the way upstream the first morning, I heard a commotion in the galley, and found the cook busy killing a large 25-pound catfish which had just jumped on board. A couple of smaller ones came on board at the bow, but the big one evidently became excited by the motion of the propeller and jumped into the galley beside the oven.

On the way upstream a canoe put out from shore after firing a shot to attract our attention, and while the launch stopped it pulled alongside and the occupants wanted to know what time it was. As though time made any difference on the Amazon River! Well, it seems they had a foreman and an alarm clock. The alarm clock stopped, and they had an argument with the foreman about the time of starting work in the morning, so we had to settle the matter.

This led to our pilot telling of being stopped on the Ucayali River and asked if they had any mail for a couple of local Indians. The Indians were taken on board, and carried down stream for about three hours, before being told there was no mail. This meant a whole day paddling back upstream, to teach them not to stop the mail steamer for trivialities.

One of our later guides, whom we paid 16 cents a day, told us he had at one time amassed a fortune in rubber. He had accumulated the equivalent of $50, and in spite of the advice of his friends decided to see the world. So he took his whole fortune and went to Yurimaguas and Iquitos. He saw movies, and sawmills, and drank cold beer with ice in it, and blew in the entire fortune seeing the world,

and was contented.

On the way out, after the rains had started, we arrived in Iquitos just in time to catch the fortnightly mail launch back to the river airport. The colonel in charge of the river constabulary was on board with a bad case of malaria. An old medico from the leper colony was also aboard on his way out on an annual leave of absence. His remedy for minor ailments was plenty of lime juice. His only medical equipment was a bottle of Eno's Fruit Salts and a clinical thermometer. We furnished the quinine.

Arriving at the airport at Masisea one morning, we found there had not been a flight for a week, on account of rains. After buying a curious bit of Chama Indian pottery, I was sitting in the cantina with a couple of pilots drinking warm beer, of which we had consumed about two quarts each, when a plane came in from the mountains.

We were told it was going right back, and rushed our stuff on board. About one hour out, over the jungle, and with an hour and a half yet to go, I had to do something about that beer. In desperation, the Indian pottery saved the day. We had all left our raincoats back at the Base. The pilot came in about four thousand feet over San Ramon and then had to come down in a hurry. Thank heaven for centrifugal force. The pottery was broken later on the way home.

The mountain road up the Chanchamayo Valley was closed the next day on account of washouts, but we had already passed. I arrived in Lima the day before the sailing of the Grace Line steamer, and reached home Christmas night by plane from Havana, this constituting a series of fortunate "breaks" which are unprecedented. A letter written the day after we left Iquitos reached me at Pittsburgh a month after my arrival. Clients who pay per diem fees please take notice. I see in the papers that a large colonization project is being organized for that region. Let's volunteer as a nucleus of veteran geologists and independent oil producers.

Yours,
L. G. Huntley

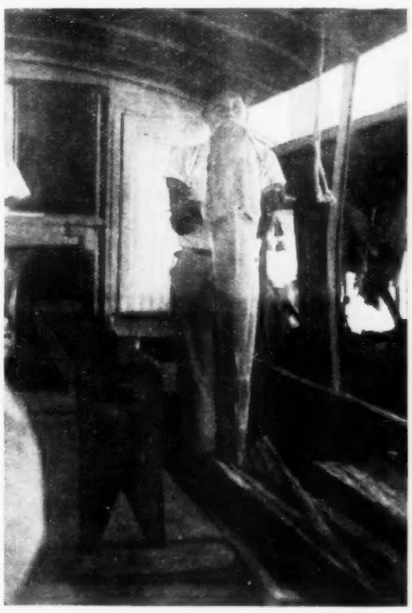
Fundamentals of Yields in COST ACCOUNTING for REFINED PRODUCTS

By H. T. Zimmerman*

Part II

IN THE form of work-papers or supporting schedules, the quantities of oils charged into the various units and the products produced from the operations of distillation, cracking, treating, etc., may be shown in gallons or barrels and per cent for each operation or process. Recycled oils pumped to cracking stills may also be shown, but as memoranda only and not included in production percentages.

Other information concerning the operations, such as oil, gas or coke burned, in quantity and per cent based on total crude run, and for steam, distillations and cracking separately, with cracking stills fuel burned based on total charging stock to the cracking stills, may also be carried and compared from month to month.



The catfish which jumped into the oven

The practical purpose to be served by such yield exhibits is that everyone concerned can observe and grasp, almost at a glance, the vital operations of the refinery during the month, the quantities of oils charged into the various processes, and the products produced from them. With the assurance that the quantities of all oils shown thereon have been corrected in volume to 60° F., that the terminology of all products is clear and truly indicates their contents and that all products have been balanced, everyone concerned will be in position to intelligently question or discuss any matter that may arise in connection with the oils processed and produced during the month.

A clear terminology of all products is essential for correct evaluation of inventories, particularly with reference to fresh and cracked gas oils and fuel oils. Accidental mixture of fresh and cracked oils, affecting large storage, sometimes occurs and requires special consideration in the pricing of the oils on hand.

With a products balance re-

*Cost Accountant, Tulsa, Okla.

port from the refinery each month listing all products and showing for each one the inventories at the beginning and end of the period, with all movements in and out, including production, tied in between the two inventories, the actual yields may be grouped under each unit heading or assembled in any form of operating exhibit desired. It alone places in the accountant's hands most of the information needed concerning the refining operations that is not contained in the books of account. Since it covers practically all the information contained in ordinary monthly refinery reports it may be used, by including in it the chemicals used and the data on gas, to replace all other operating reports relating to yields and production.

THE thought that may well be kept in mind is that the yields recording and statements, as well as the cost statements, should present a clear picture of the refining operations and their results, to the fullest extent possible. In this connection, reflection will convince everyone that a clear understanding of each step in the manufacture of any product is essential to the ability of the accountant to visualize the entire process of manufacture, which in turn is requisite to intelligent and accurate cost determinations.

Cost schedules, or cost data of any kind, if based upon yields of products not accurately recorded and balanced, cannot be certified as substantially correct. If, for instance, the products-in-process are not properly accounted for or balanced each month, but estimated production figures of some of these unfinished products accepted from the refinery and these same estimates used in any part of the cost calculations, as they must be, then the monthly cost schedules also must be more or less out of line. While this is not a general practice in petroleum manufacturing departments of the large oil companies, it still may be found to support some of the most elaborate and voluminous cost reports.

While oil accounting methods in all branches of the industry have been steadily simplified and improved during the past many years, antiquated forms in recording yields may still be found in use. This, together with an almost entire absence of clear yield and production records of any sort in many companies, can perhaps be explained only as the result of hesitancy to attempt accurate accounting recording of the manufacture of products constantly changing in form, volume and weight. In this work, however, it is possible, as in all other accounting problems, to reduce each one to its simplest terms and to closely follow the actual operations.

The adjustment for potential contents in the increase or decrease of unfinished products in stock, which is necessary to correctly determine final yields, does not in itself constitute final yields. It will therefore be found helpful, if the final cost summary is lined up in the form of a combined work-paper and summary with red and black potential, and black final yields figures intermingled, to add another brief, clear summary showing only the final positive yields and costs.

The final net results of refining operations can be truly indicated only by positive, not negative, figures. Whatever form of summary may be used it should so clearly show the final yields and costs of each product as to leave no doubt in the reader's mind that they are final, not partial, yields and costs.

It is understood, of course, that a uniform cost basis is used in the calculations so that the partial per gallon cost of crude stilling, cracking, re-running, stabilization, treating and loading, shown separately, will total the final cost per gallon of each product. Otherwise, the statement will constitute a presentation of miscellaneous cost data only, and not a summary that ties in with the combined per gallon cost.

Some of the very largest, as well as some of the smaller companies, undoubtedly have such excellent yields recording and cost methods that it would be difficult indeed to improve them in any respects whatsoever. But, "believe it or not," the yields accounting for refined petroleum products is a neglected field in many companies, a sort of no-man's land in which the average accountant, no matter how skilful and experienced he otherwise might be, quickly becomes confused and lost. Only when a lawsuit, presenting claims for damages in connection with refining processes, compels attention, do the imperfections in yield and cost accounting stand out so clearly as to be frankly admitted and an urgent call made for revision.

One of the benefits derived from accurate yields recording is that it serves to indicate hidden leaks or losses that may occur, whether in buried or surface lines, tanks, crude or cracking stills and treating plant, or abnormal losses in open top agitators or in loading cars for shipment.

WHEN a seven-day period is used in checking results of operations, allowance must be made for shut-downs, clean-outs and recharging operations, particularly in connection with cracking operations. The 24-hour cycle is entirely too short to give any accurate results in figuring yields but it is nevertheless advisable that all products be balanced each day. Yield accounting for a full month, however, permits such accuracy that where yield percentages are carried to tenths of one per cent only, the final yields shown will be correct.

The accurate check-up of yields touches practically every vital point in the operation of the refinery and in the manufacturing processes and therefore the yield and cost accountant may often find that his work leads to questions that seem to lie outside the scope of his work. The check-up of fuel oil or gas burned may prompt the question whether CO_2 meters are in use or laboratory analysis made of flue-gases to insure perfect combustion, which affects steam costs. Abnormal evaporation losses in some particular tanks may indicate insufficient cool-

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**A typical yield is 54 per cent of 410° end point gasoline having an octane number of 85 (C. F. R. Research Method) from reduced Mid-Continent crude. This means, on the basis of original crude charge, a finished production of 68 per cent of 72 octane motor fuel—without reforming.*

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ing of coils in condenser boxes. Excessive loading losses may in some cases be traced to the blending of casinghead or natural gasoline with the gasoline produced at the refinery, for the purpose of bringing the latter up to gravity, and many other points may come into view for the scrutiny and action of the operating department.

THESE losses that at first thought might appear to be operating problems only, also become problems in yields analysis for the reason that they become parts of the group of losses that cannot separately be accurately determined but that increase the "unaccounted for" loss for the entire refinery and decrease the final yields of finished products. Thus it becomes evident that while the problems of operation and of yields and costs necessarily overlap, the intelligent and searching analysis of yields, requiring accounting knowledge, ability and experience, constitutes the one greatest aid to maximum refining efficiency and is thus conducive to lower manufacturing costs and increased profit for the company.

The questions of type, capacity, efficiency, condition and economical operation of all refining equipment and processes are of course the concern and under the exclusive control of an operating department, yet they are also factors in comparative yields efficiency and manufacturing costs, and therefore become of absorbing interest in yields recording and summarizing work.

The following illustrations of losses disclosed by yields accounting analysis may be of interest: In checking up each refining operation to reduce excessive production losses, the deliveries of gasoline from storage and loading tanks were checked against the actual tank car shipments. A loss of approximately two hundred barrels was indicated, over and above what might be termed a normal evaporation loading loss, considering the atmospheric temperature and that of the gasoline loaded.

This loss was found to have occurred at irregular intervals over a period of about 18 months with an average occurrence of once each week. Tank transfer and loading lines were uncovered and the ground around each of the suspected tanks was examined for signs of leaks, without success.

After daily checking for an entire month of all movements of gasoline in and out of the tanks under suspicion it was definitely determined that an emergency loading tank, which did not permit quiet gauges, that is, there was a stream going in while at the same time a stream was pumped out, was the point at which the losses occurred.

It was drained and found to have a rusted, perforated bottom, although otherwise the tank appeared to be in perfect condition. This bottom rested, about two feet below the ground surface, on a bar of sand and small gravel, which made clear why no leakage spots were found around the tank.

Based on total crude run, the leakage loss in this tank had increased the "unaccounted for" loss of the entire refinery only two-tenths of one per cent and would not have been discovered at the time had not a test-check been made of each operation in the refinery. Gasoline at the time was selling for about 10 cents a gallon f.o.b. refinery and it was estimated at least $25,000 had been sunk in the old sand and gravel bar.

Curiosity about the tank-bottom developed that a year and-a-half previously one of the treaters had gone to a dance one evening before reporting for work on the graveyard shift. He had a batch of acid treated kerosine distillate in one of the batch agitators and had pumped it over into the tank in question, at that time in kerosine service, without completely drawing off the chemicals or washing the batch. He had lost his job and, oddly enough, his next job was driving a laundry wagon, which surely constituted a change in washing.

Another case was an apparently unexplainable abnormal cracking system loss. This was found in a small stabilizing tower, not included in the patented design but specially constructed by the licensee, placed on a small platform at the highest point of the system and connected with the cracking unit. It handled a light colored, fairly rich vapor, just below the flashing point. A composition metal asbestos gasket on one of its connections had sprung a leak and due to its peculiar position in relation to the other equipment, the escaping vapor was not noticeable and, being below flashing point, did not burst into flame.

OTHER cases could be cited in which unsuspected as well as suspected abnormal losses were spotted by the aid of yield analysis and comparative efficiency work. Such cases are, or should be, after all, only incidents in the day's work of the yield and cost clerk at the refinery.

Approximate uniformity in accounting for crude oil production and pipeline operations may be said to exist, with constant improvement being made in simplifying, breaking down into detail, and clearly recording all entries going into books of account.

Likewise, some measure of uniformity in petroleum manufacturing accounting has also been reached in methods of handling manufacturing expense and sales accounts, but practically no uniformity exists, in the industry as a whole, in methods and practices of recording and summarizing yields, nor in the calculations and presentation of yield and cost schedules.

Uniformity in petroleum manufacturing cost procedure will also be possible when it becomes the custom to establish, in yields accounting detail, all facts concerning refining operations, and to simplify and clearly record all entries concerning them. With it will come simplicity in lineup of cost schedules and miscellaneous cost data, cost calculations entirely free from unduly involved and highly technical compilations, and unit costs that will substantially tie in, upon reconciliation, with the manufacturing profit and loss account.

(The End)

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Calculations for the Design Of Bubble Tower Foundations

Part I

By Wayne C. Edmister*

A METHOD of design of foundations for cylindrical towers and tanks used in refineries and gasoline plants will be presented in this series of articles along with design charts which simplify and shorten the procedure. The first of these discussions will design the base so as to prevent overturning, the second will give bearing loads and design thickness of base as well as the reinforcing and the third will design the anchor bolt setting.

Consider all the forces acting on the tower and foundation as shown in Fig. 1. The force tending to overturn the tower is a horizontal force due to the wind, while the weight of the tower and concrete tend to keep it balanced. The worst condition therefore will be when the tower has no liquid in it and the wind velocity is very high. These two forces go through the center of gravity of the tower and are shown on Fig. 1. If the wind load in pounds per square foot of projected area is represented by W L, the height of the tower in feet by H, and the diameter in inches by D, then the horizontal force applied at the center of gravity of the tank will be $\frac{W\,L\,H\,D}{12}$ pounds. If W_T is the weight of the tower in thousand pounds, W_P and W_B the weights of the pedestal and base respectively in thousand pounds, the vertical force through the center of the tower will be $W_T + W_B + W_P$ thousand pounds.

The diagram of forces in Fig. 1 show the horizontal and vertical forces with their resultant, which makes an angle θ with the vertical. In order that the tower shall not tip over this resultant must pass within the bottom of the base or it must not fall past the outer edge of the bottom of the base. In other words a line drawn through the center of the tower at an angle θ with the vertical must cut the bottom of the base and it is on this criterion that the design of the base width is founded. In other words, the dimension Y must be such that the ratio of half the base D width in feet to the horizontal force in pounds is equal to the ratio of the distance from the bottom of the base to the center of the tower in feet to the total vertical force in pounds. This ratio is shown on the diagram of forces and is expressed,

$$\frac{\left[\frac{H'}{2} + \frac{p'' + X''}{12}\right] \text{ feet}}{[W_T + W_B + W_P]\,10^3 \text{ Lbs.}} = \frac{\left[\frac{Y''}{24}\right] \text{feet}}{\left[\frac{W\,L\,H\,D}{12}\right] \text{ Lbs.}} \qquad (1)$$

The weight of the pedestal W_P is small and will be neglected since neglecting it will make the design on the safe side. That is, a larger value of Y will result by neglecting W_P.

With reinforced concrete weighing approximately 133 pounds per cubic foot, $W_B \times 10^3 = \frac{133\,XY^2}{1728}$ pounds. W_T, the weight of the tower in thousand pounds is known. Neglecting W_P and using value of W_B, equation 1 becomes

$$\frac{D\,W\,L}{24}\left[H^2 + \frac{p + X}{6}H\right] = W_T\frac{Y}{24} \times 10^3 + \frac{133}{1728}\frac{Y^2X}{24}$$

Simplify and let each side be denoted as $F \times 10^3$

$$\frac{D\,W\,L}{24}\left[H^2 + \frac{p + X}{6}H\right] = F \times 10^3 = W_T\frac{Y}{24} \times 10^3 + \frac{Y^2X}{312} \qquad (2)$$

Chart I is a graphical repre-

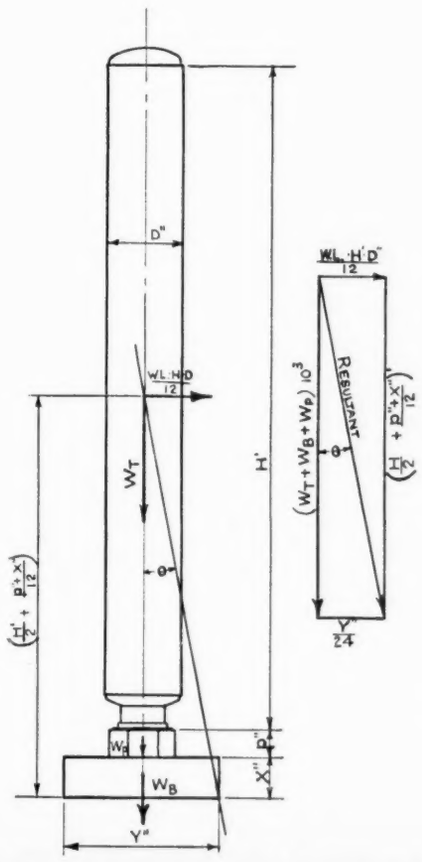


Fig. 1—Diagram of all forces acting on vertical tower

*Telluride Scholar, Cornell University.

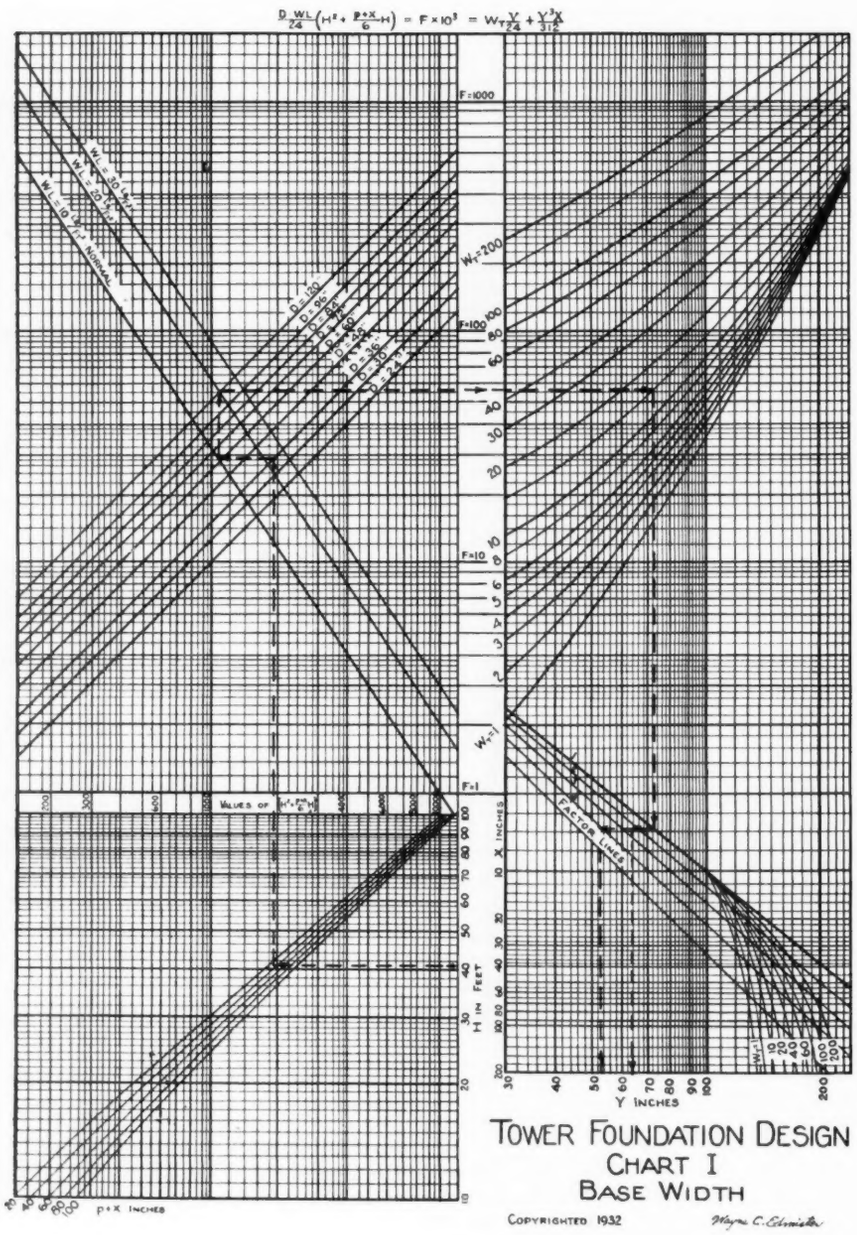


Chart I—Graphical representation of Equation 2

sentation of equation 2. The lower left hand corner gives the value of

$$\left[H^2 + \frac{p+X}{6} H \right]$$

as a function of p+X and H, the top part of the left side. Multiply this quantity by $\frac{D\ W\ L}{24}$, giving the value of $F \times 10^3$ which is normal for WL =10 pounds per square foot. The wind loads, W L, used are 10, 20, and 30 pounds per square foot of projected exposed surface, which correspond to wind velocities of 45, 65, and 80 miles per hour or to a high storm, great storm, and a hurricane respectively. These forces apply for the respective wind conditions for plane surfaces and would be somewhat lower for the same projected area if on a cylindrical surface. The error places the design on the safe side however so these wind loads may be used.

The right side of Chart I gives Y as a function of F, W_T, and X and is normal for X=10 inches.

In using chart I, the value of X must be assumed. Y is then determined and X is determined by the use of chart III. With this new value of X, Y is redetermined. For the first assumption, X is assumed small as this gives a larger value of Y. The first turn is made at factor line number 1 and the second turn at a factor line found at the intersection of assumed value of X and value of W_T. If X=10 inches no turn is made at the factor lines, but the value of Y is read direct.

An example will show the use of the chart more clearly. With a 65-mile-an-hour wind (20 pounds per square foot), find dimension Y for a 36-inch by 41-foot tower which weighs 15,000 pounds making p equal to 16 inches. Assume X to be 20 inches. Then p+X=36 inches. Enter the chart at the lower left hand section with H equal to 41 feet and follow the arrows. Turn at p+X=36 inches, getting a value of

$$\left[H^2 + \frac{p+X}{6} H \right] = 1900,$$

and go vertical to D=36 inches. Turn left, go to normal wind load (10 pounds per square foot) line, then go vertical to wind load of 20 pounds per square foot and turn to the right getting a value of F equal to 56. Move horizontally to the right to W_T=15, turn and go vertically downward to first factor line. This is the turning factor line for all values of X above 10 inches.

For X=10 inches the factor lines are disregarded and the solution is simplified to one of moving straight down to Y scale from the turn at W_T. With this same turning point on first factor line, Y would be 73 inches if X were 10 inches. If however X is greater than 10, the solution requires the use of the factor lines. Turn left at the first factor line and go to the factor line which goes through the intersection of X and W_T, thence downward to the Y scale. In solving the example with X=20 inches and W_T=15, this procedure gives as result Y=64 inches, but with X=50 inches and W_T= 15 a value of Y=52 inches would result, with the same turning point on the first factor line.

(To Be Continued)

Straight-run gasoline output down 13.9 percent

Gasoline consumption down 10.1 percent

Cracked gasoline output down only 9.6 percent

Increase in cracking seems to be a reflection of demand for gasoline of higher octane number

—Estimate for six months to April 1 by Federal Oil Conservation Board Committee

True, but that's not the whole story Here's the rest of it:

Dubbs cracking makes the highest yield of the best anti-knock gasoline at lowest cost —royalty and all—from any charging stock

There never has been enough Dubbs cracked gasoline

Dubbs cracking is sound, economical—and profitable

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

A close up of the meter hook-up on its wooden loading dock at the Johnson Oil Co. plant at Wichita

Light Oil Meters Pay Out Quickly In Rural Kansas

Stop Former Losses Encurred in Billing Drums at Rated Capacities

KANSAS CITY

AN UNUSUAL system of distribution of petroleum products to farm and ranch users is growing rapidly in Kansas. Though a good portion of this business is in the hands of independent marketers who serve as jobbers or distributors for the refiners, several major operators are expanding their facilities to reach this trade in a similar way. As a result, the last two years has seen a remarkable growth in the number of small bulk plants which cater almost wholly to what is called "tractor" trade.

A good example of such a plant is that of the Johnson Oil Co., at Wichita. Located on the north side of the city, in close proximity with the Stockmen's Exchange, stock yards, grain elevators and other industrial plants to which the farmers come to transact business, this plant has shown a rapid growth. It started a little over two years ago as a single hand pump dispensary, but its convenient location, its low profit margin and plenty of hard work among the farmer customers brought quick expansion.

Through the installation of a meter to measure the gasoline sold, inaccuracies in the gauged capacities of customers' drums were brought to light which had been a source of considerable loss to the oil company.

The station now consists of a bulk plant having storage capacity of approximately 50,000 gallons and a retail service station having three metered pumps, greasing service and tire repairs, as well as several lines of accessories. A large stock of barreled lubricating oils is also carried and a small tank truck makes deliveries to a number of independent dealers in the city.

The storage consists of four, 12,000-gallon capacity tanks, two for different grades of gasoline, one for kerosine and one for distillate, all buried about three feet underground. They are filled from tank cars on a siding 100 yards away, either by gravity or by pump action, the 2-inch fill pipes being extended through the tanks tops to within a few inches of the bottom to eliminate splash feed. Only a switching charge is paid for spotting the cars, since the oils come from a nearby refinery.

The pump unit used in filling the tanks, as well as in dispensing their contents, is a geared, twin unit, each pump having a capacity of 85 g.p.m., and it is operated by a 3 h.p., motor. Though this motor is three phase, it is separated from the pumps by a fire wall. One of the pumps handles both grades of gasoline, while the other is used for kerosine and distillate.

An accompanying photograph shows the simplicity of the dispensing hook-up outside the tiny pump house. A single flexible hose serves for the gasolines, both of which are pumped through the meter, while the two other light oils have individual nozzle outlets and come direct from the pumps without being metered. Sales of the latter are based on stick or container gauges.

The installation of the meter came as a result of unaccountable shortages noted in the first six months of operation. A large portion of the deliveries from the plant, particularly of gasoline, is to drums brought in by farmers when they bring their cattle or grain to market. According to Vernon Johnson, owner of the plant, every farmer thinks all steel drums contain 50 gallons, no more, no less. While the average is close to this figure, it was found, by checking these containers with the meter that the actual range was from 46 to 60 gallons.

One ranch truck carrying a tank which the owner honestly thought had a capacity of 307 gallons turned out to have an actual capacity of 316 gallons, the difference of 9 gallons having been placed in the tank

gratis any number of times previous to the meter check. When the error was discovered and the difference proven to the complete satisfaction of the farmer, he voluntarily reimbursed the company for the excess delivered to date, an action which was neither suggested nor expected.

It is this sort of square dealing that has aided in building up the business. Mr. Johnson indicates that many customers had to be shown by hand measurement with a standard gauge container just what the meter would do before they would accept its reading for their particular drums Once its accuracy was demonstrated, however, no further difficulty was encountered. On a basis of the check made on the various drum capacities, Mr. Johnson estimates the meter is saving him $85 a month in shortages. Since its installation, his receipts and sales have checked almost to the gallon.

Farmers come to the station from a radius of 50 miles. Usually they have to come to this neighborhood anyway to transact their own business in other lines, but, in any event, they haul home their own gasoline and lubricating oils for the saving they can make. This saving may vary from a fraction of a cent to as high as two cents per gallon and all deals are made on a strictly cash basis. A large free parking space is convenient where trucks may be left and watched while the owners are on other errands in the city.

A close-up of the bulk storage at a small Kansas plant showing the piping hook-up and the meter settings for each of the three products carried

Another bulk plant of this type is about eight miles west of Wellington, Kans., on the main highway between that city and Wichita.

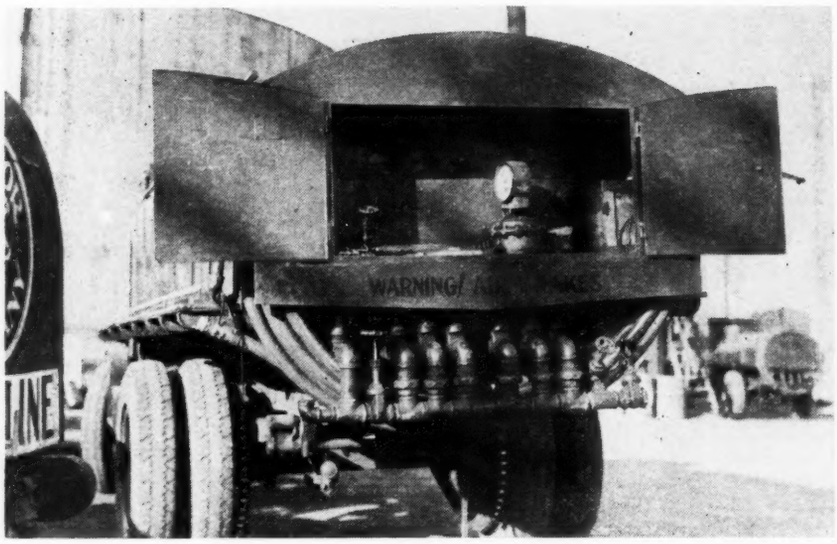
At the present time its bulk storage facilities consist of three 12-gallon tanks which are mounted about seven feet above ground on steel supports set in concrete. Space for a fourth tank is being cleared, the recent growth of the business demanding additional storage.

Tank car unloading spots are located one quarter of a mile away but, fortunately, are about 10 feet higher than the tanks. This elevation permits gravity filling of the tanks through a 2-inch line though the process is rather slow due to the friction losses in the pipe, which was laid regardless of the surface levels. For this reason a 2-inch, 90 g.p.m. rotary pump, belt driven by a 2 h.p. gas engine, is used as a booster just below the tanks to speed up the unloading of cars. The operators claim a whole tank car can be unloaded for approximately six cents. The engine also serves to operate the air compressor of the retail service station, which is a part of the general setup.

This bulk plant serves the same class of consumers that patronize the Johnson Oil Co., and the same experience was had with the various sizes of drums. Excess gallons of all light oils were delivered into oversized drums for nearly a year before meters were installed, and checks later indicated that the meters paid for themselves within six months. No truck deliveries are made from this plant, all sales are cash and the farmers do their own hauling.

The two bulk plants described above are not isolated units in the state, for there are many similar stations scattered about the rural districts in the western part. Though profit margins are low, the overhead is so small that the independent dealers, once established, are able to make something more than just a good living.

A billboard on the highway beside the Johnson station which any farmer can read from a considerable distance in either direction. The prices shown are for farm used fuels which are free of the state tax. The gasoline price, however, shows the one cent federal tax



Rear view of a reconditioned 7½-ton truck, showing the pipe manifold and the meter setting. Note the pneumatic tires that replace the old solid tires and that the hose rack houses the tool compartment and the meter

Old Trucks Reconditioned To Deliver Fuel Oils And Distillates

KANSAS CITY

THE complete setup for the efficient delivery of fuel oils and distillates in a big city is considerably more complicated than the casual observer might suspect.

The consumer sees but one truck making a delivery, notes the ease with which it is unloaded and thinks the whole system as simple as that particular operation. Essentially it is, though it is made so by some oil company organization which is constantly working to lower operating and maintenance costs.

Aside from the product itself, the first consideration is transportation and it is in this field that most of the present economies are being made. The trucks used for the purpose must be maintained at the lowest feasible figure and there must be at least one well equipped and efficient repair shop to keep the many units running on schedule. In addition to the essentials found in a large, well managed garage, this shop must include a good paint shop and a complete body works capable of performing major operations on any make car. The alternative is for the oil company to have arrangements with some good outside concern to handle this class of work.

A shop of this type is maintained by the Phillips Petroleum Co., at its refinery in Kansas City, Kans. Most of the trucks used in serving industrial plants in that area, as well as in Kansas City, Mo., are operated from this garage, though in the latter city a bulk station is maintained for quick deliveries by other units.

Some of the trucks in the delivery fleet are worthy of special mention. Acquired originally as part of the assets of a company merged with the Phillips, they have been so altered to fit present needs as to scarcely resemble the original model, either in appearance or operation. Most of these trucks were Macks of a vintage of 1925, though there are two Kellys dating back to 1922. Only one of the latter is used for delivery purposes, however, serving usually as an auxiliary, and the other has been transformed into a clean-out truck.

The clean-out unit, used in removing settlings from the storage tanks of consumers, is an essential part of every fuel oil distribution center, though it may operate only 6 to 8 months in the year. It has no regular crew but it may carry from two to 7 men beside the driver, recruited as needed, when the demand for fuel is at its highest in the fall of the year. Because of the intermittent nature of its service, the only logical equipment for the purpose is an old truck that is still serviceable. There is no call for speed and about all that is needed is transportation for the essential pumps and fittings, and enough power to bring back a tank load of residue to the refinery.

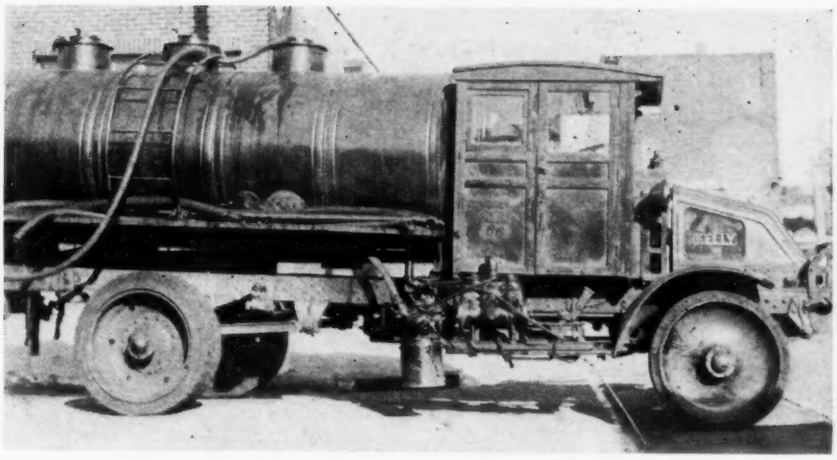
In this particular case the old Kelly more than serves the purpose and, considering the type of service, it is an operating economy. The Kelly already has more than 250,000 miles registered to its credit. Its four-cylinder engine develops 45 horsepower and a top speed of approximately 18 miles an hour. The tank which it mounts has a capacity of 1530 gallons and is divided into three compartments, one of which occupies about half the space. It is equipped with a 200 g.p.m., 2-inch Blackmer rotary pump, which is firmly attached to the frame on the right hand run-

ning board. The pump is chain driven from the drive shaft through a St. Paul transmission having a two to one gear ratio.

In addition to the pump, the equipment includes a double-acting force pump, which is hand operated and serves as a booster for the rotary pump when it is placed in the suction line on unusually heavy lifts. Some of these lifts reach 25 or 30 feet, where fuel oil storage tanks are located in the double basement of an office building. The truck also carries 150 feet of two-inch fabricated hose made up in coupled lengths of 25 feet each.

No charge is made for cleaning out a storage tank and the settlings obtained are returned to the refinery, where an exchange for new fuel oil is made, on a basis of volume, as an adjustment with the consumer. The labor and time required to clean a tank of course depends, on its condition, though the usual time seldom exceeds a whole day.

The old Mack trucks that are still economically operated in shore delivery service have undergone considerable mechanical changes. One of these eight-year old units is shown in an accompanying photograph. This truck has been driven more than 300,000 miles but this does not fully represent the total service of the engine, since it is also used for driving the pump. It is a five-ton model driven by a four cylinder, 45 h.p., engine,



A 10-year-old Kelly truck used for cleaning out fuel oil tanks in the Kansas City area by Phillips Petroleum Co. Note the power driven rotary pump and the double acting force pump on the running board, the latter being used as a booster for the rotary in heavy lifts

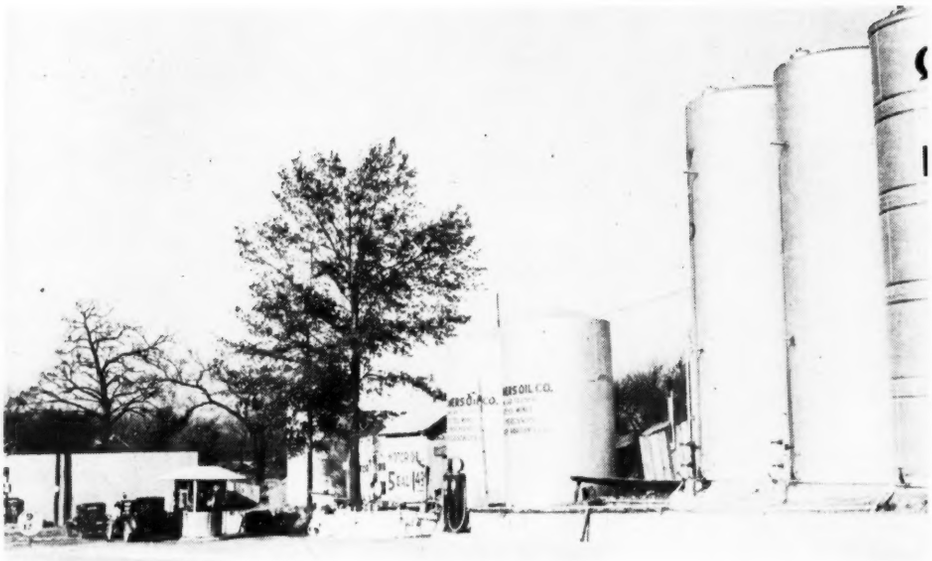
and, due to the fact it has been geared up slightly, it is capable of making a top speed of 22 m.p.h. The old 40 x 8 solid tires and heavy rims have been removed and the rims cut down to accommodate 36 x 6 pneumatic tires on the front and 38 x 7 tires on the rear. The mechanical brakes which served the truck originally have been replaced by B-K vacuum brakes connected to the intake manifold.

The fuel oil and distillate handling facilities of the Mack trucks is almost identical to those on the equipment described above. The rotary pumps are the same size but the hose used for discharge is 1½-inch instead of 2-inch and is in one length of 150 feet, instead of in coupled sections. The reason for this is the necessity for elimination of leaks, which, in the case of domestic delivery, usually result in damage to lawns. The hose is carried on a rack, at the rear of the truck.

Except in the case of one truck rated at 7½ tons, the tanks carried on all Macks are approximately the same size and have practically the same compartment division. The large truck has a tank capacity of 2200 gallons in six compartments and all of the load carried may be metered on delivery. This truck is used in the Kansas City, Mo., area for small consumers, those who buy fractional portions of compartments, and the meter is used in checking these runs. The meter is located at the pipe manifold on the rear of the truck.

Though the older trucks will continue to give good and economical service in this particular area for a considerable period, they are gradually being replaced by modern units with more power, speed and maneuverability. One of the newer units, a 65 h.p., 1930 Dodge is shown in an accompanying photo. This truck is somewhat lighter than the Macks, though its four-compartment tank holds slightly more than 1200 gallons. It is a convenient delivery unit for the comparatively small orders of domestic consumers and it is also equipped with a meter.

One of the more modern delivery units, a Dodge, with a four-compartment tank holding 1200 gallons, from which small dumps are metered. The meter is on the side board just above the rear wheels



General view of the plant of the Consumers Oil Co., Kansas City, taken from the four traffic lane highway on which it is located. The retail service station house is on the left, while the dispensing pumps in the center, together with the kerosine connection beside them (see photo 2) constitute a loading rack for truck deliveries

ALL PRODUCTS METERED

At Kansas City Suburban Bulk and Service Station

By William F. Lowe
N. P. N. Staff Writer

KANSAS CITY

AT THE 24-hour-operated, combination bulk plant and service station of the Consumers Oil Co., of Kansas City, the only oil products not measured through meters are the heavy greases.

All lubricating oils, gasolines and kerosine are sold from this plant entirely on the basis of the various meter readings.

The general setup of the station is interesting. It is about 12 miles east of the business district of Kansas City on a four traffic lane, national highway at the point where it intersects another national highway trending north and south. Immediately behind, and approximately 15 feet above the tank grade is the main switch track of the Kansas City-Southern railroad, which connects Independence, Mo., with the main line at Kansas City.

The elevation of this railroad above the storage tanks permits the gravity unloading from the tank cars of all the lubricating oils, and the kerosine and gasoline tanks are sufficiently below the tank car bottoms to allow one whole car to flow into any of them before pumping is necessary. The pump unit used for this purpose is a twin rotary, operated by a 2-h.p., three phase, 220 volt motor. Each pump has a capacity of 50 gallons per minute.

The station has four 2500-gallon lubricating oil tanks, one 12,000-gallon kerosine tank and one 15,000, one 12,000 and three 30,000-gallon tanks. Two grades of gasoline are handled. During the summer months all these tanks are equipped with two-pound pressure vents as a protection against vapor losses. The vents are removed late in the fall and not replaced until spring but their use during the hot months is said to more than offset their cost, even for part time service, in the savings resulting from reduced vapor losses.

All the tanks are uprights due to the space limitations of the property. The three different tank groups are each set on reinforced concrete slabs and the tank grade is curbed on the drive side by a low concrete and rock retaining wall.

The service station house is a small ready-made steel structure, glassed in from center to roof, and with roof end extensions covering two, metered, dispensing pumps on one side and one on the other. Two other pumps of the same type are located some distance up, and to the rear of the drive.

Along side of these pumps is a kerosine dispensing hose with nozzle valve which is directly connected to the kerosine storage tanks through a meter taken from an unused dispensing pump. This hose connection and the two pumps constitute a loading dock for the one delivery truck operated by the

ADVERTISING PAGES REMOVED

IT IS COMMON experience among bulk plants throughout the country that sales plus inventories do not equal receipts. Sometimes the differences or losses are disturbingly large.

It is bad enough that such losses actually do exist. But what the bulk plant wants to know is how they come about. What is responsible? More important, how can they be eliminated?

The RED SEAL METER-MASTER SYSTEM supplies the means of finding the answer.

Discloses Inaccuracies of Tank Wagon Compartments

Of course these losses can be attributed in part to leakage and spillage. Then there are the losses due to evaporation. Also those caused by volume changes brought about by temperature variations.

But the most important one of all is that which usually goes along day after day unsuspected. This is the loss due to inaccuracies in the assumed capacities of tank wagon compartments. You suppose, for example, that the capacity of each compartment on a certain truck is 200 gallons. But how do you know it is? Did you ever take the trouble to find out? Frequently such capacities are seriously changed from their original ratings by distortion, accidents and tampering.

It is no exaggeration to say that a 200 gallon compartment may be off 7 gallons, or more than 3%. Think what this loss means when applied to your gross sales!

Helps Banish Leakage, Spillage and Evaporation Losses

RED SEAL METER-MASTER SYSTEM tells you to a gallon what both your sales and receipts are. There's no guessing. No chance for arguments or disputes. It permits you to keep a record for each day, week, month and year. In other words, you know what you are doing.

If unusual losses due to leakage occur, the RED SEAL METER-MASTER SYSTEM discloses that fact. It perpetually reminds management to get busy and stop the leak. It promotes efficient operations. It puts the entire plant on a business-like basis.

Again, the RED SEAL METER-MASTER SYSTEM helps banish evaporation losses during pumping. This is an important economy.

Each Installation an Individual Engineering Problem

Although the RED SEAL METER-MASTER SYSTEM is applicable to every bulk plant, regardless of size or stock handled, still each installation represents an individual problem. It must be designed and applied to meet specific conditions.

Put it up to Neptune

For this reason we urge you to write us for definite information on your own requirements. Or consult our nearest branch office.

Mail Coupon for Interesting Information

Also, fill in and mail the handy coupon for interesting booklet. It is now on the press and will shortly be ready for distribution. It completely describes the RED SEAL METER-MASTER SYSTEM, itemizes the equipment involved, shows how it works, and enumerates the many benefits and actual dollars and cents savings that can be expected from every single installation.

You incur no obligation by writing.

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Main Office: 50 EAST 42nd STREET, NEW YORK
Branches Offices: Atlanta, Boston, Chicago, Dallas, Denver, Kansas City, Los Angeles, Louisville, Portland, Ore., San Francisco

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☐ Please send copy of descriptive booklet as soon as published.
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NEPTUNE

RED SEAL METER-MASTER SYSTEM

A view of the meter hook-up at the kerosine tank, showing the adaptation of an unused dispensing pump meter for the purpose. Note the height of the railroad side track behind the tank on the left

company. The truck, a 1½-ton Chevrolet, is equipped with one 500-gallon tank for gasoline and a two-compartment, 60-gallon tank for lubricating oils. Rural deliveries are made within a radius of 25 miles.

The lubricating oil pit is directly behind the service station house on top of the rock retaining wall and has an interesting hook-up. Each grade is gravity fed direct from its storage tank through a registering meter. There are four of these meter settings, thus the oil from each of the four heavy oil storage tanks has its individual outlet and measure check. This system, though slightly more expensive initially than pipe manifolding, permits greater speed in handling, eliminates all possibility of contamination between grades, and gives a more accurate accounting for every gallon received in and dispensed from the station.

The owner of this plant, Ned P. Harshbarger, indicated the use of meters has more than repaid the cost of their installation in the savings effected. He writes, "Over a period of 12 months we show a shortage of 1½ gallons of oil, as invoiced to us by the refineries. I really think this is some kind of a record, and should be sent to Ripley's "Believe It or Not" column, instead of to you. However, such is the case."

Some difficulties were encountered in the use of a meter on the small delivery truck due to the fact that jolting over the back country roads caused some misadjustment of the mechanism. It was found that, after a few trips, the meter readings would be incorrect and the use of the meter was discontinued. However, the light oil meters at the station itself have given complete satisfaction.

Since the station is open 24 hours a day, it is impossible for any single individual to be on duty all the time and the meters are a safety measure against theft or unaccountable loss through the failure of attendants to record sales. The human element in dispensing has largely been eliminated, thus the plant operation has been greatly simplified and numerous economies have resulted.

Indiana Marketers Form Legislative Body

CLEVELAND, Feb. 9.—A committee, styled Indiana Petroleum Marketers Committee, has been formed by Independent marketers in Indiana with Max L. Wickersham as secretary of the Indiana Petroleum Marketers Association.

The committee has headquarters at 703 Roosevelt Bldg., Indianapolis, about two blocks from the state capitol. A bulletin service listing the bills affecting the oil industry, has been started.

Fuel Dealers Name Counsel

CHICAGO, Feb. 4.—Aaron Sapiro was appointed general counsel for the Burning Oil Distributors' Association of Chicago, at a meeting held Feb. 3. Floyd Moore, Seneca Petroleum Co., was re-elected president and C. R. Jonswold, Lynch-Clarisey Co., was elected vice-president. O. L. Peterson, George C. Peterson Co., was elected a director to succeed C. S. Rosenthal, Apex Motor Fuel Co., who resigned. All other directors were re-elected. The association has taken new quarters at Room 1614, LaSalle-Wacker Bldg., Chicago.

Squire Heads Ohio Committee

CLEVELAND, Feb. 9.—Numan Squire, vice president, Pocahontas Oil Corp., Cleveland, has been named chairman of the Petroleum Industry Committee of Ohio, succeeding B. M. Grant, Vacuum Oil Co., Inc., who had served since the organization of the committee last March. Mr. Grant has been transferred to New York.

Wiley Moore Honored

SAVANNAH, Ga. — Wiley Moore, head of the Wofford Oil Co. in Georgia, has been honored by having a towboat named after him. The "Wiley L. Moore" will be in service towing fuel oil barges to Augusta, Ga., up the Savannah river. The boat is 105 feet long, draws 30 inches of water, and has 250-horsepower Diesel engines.

(ADVERTISING PAGES REMOVED)

"Overfill" Is Cause of Loss

(*Continued from page* 12)

tors will not be changed at outlying stations before meter installations are complete, the liquid level indicators are being permanently fixed in place with a special punch. Only one of these punches has been made and it is kept in the traveling maintenance truck.

The fact a truck tank holds more gasoline than the original calibration shows is no indication the driver has changed the setting of the level. As a matter of fact all truck tanks normally settle after being put into service. The largest settling is in the first three months but it may continue for a year or more. In every case the tank holds more liquid after settling —never less. Experience is showing the truck tanks should be recalibrated after they have been in service for some time.

Bulging of bulkheads in tank trucks, of course, is not visible on the outside and ends of the tanks usually are concealed by the truck cab in front and the can rack at the rear so that the progress of settling cannot be noticed. Truck tanks do not change their circumferential shape to affect capacity. The change is entirely confined to the effects of liquid surge on compartment end sheets.

Tank trucks with single bulkheads, or with flat bulkheads, have a greater chance for error. A three-compartment tank, for example, with each compartment filled separately, may take more gasoline to reach the level indicator in the first compartment to be filled, because of bulging. When the next compartment is filled the liquid pressure on the other side of the bulkhead will be equalized; the first compartment will regain approximately its former size and an examination will show the liquid standing over the level indicator. In any one load the change in volume of the tank will not be appreciable, but in a period of time this discrepancy may mount into a considerable loss.

Investigation in many bulk plants has shown also that employes make it a policy to appreciably overload truck tanks. In some bulk plants it has been found that level indicators have been lost or removed. In these cases tanks are generally filled shell full and the overloading reaches large proportions.

For proper equipment of a bulk plant with meters to give accurate records, meters should be installed to check incoming tank car shipments as well as tank truck loading. With records from these meters it is possible to know exactly how much liquid is put into the bulk tanks and how much is taken out in the regular course of business. With this information at hand losses which cannot be accounted for are due to theft, evaporation or leakage. If losses still are large the management is in a better position to localize them.

In the practical use of meters, soon after the meters are in place, the management begins to plug up plant losses by lengthening tank vents, providing vapor tight gauge hatches, checking valves and fittings and going to under-surface loading to prevent turbulence.

An expert with one of the pioneer meter manufacturers asserts that bulk plants in many parts of the country can be operated with no losses on an annual basis. He has collected data to show that thermal expansion during the peak summer season, in climates like St. Louis, for example, will more than offset all evaporation and contraction losses in a bulk plant which is equipped with vapor tight tanks and which accurately meters liquid in and out of the plant.

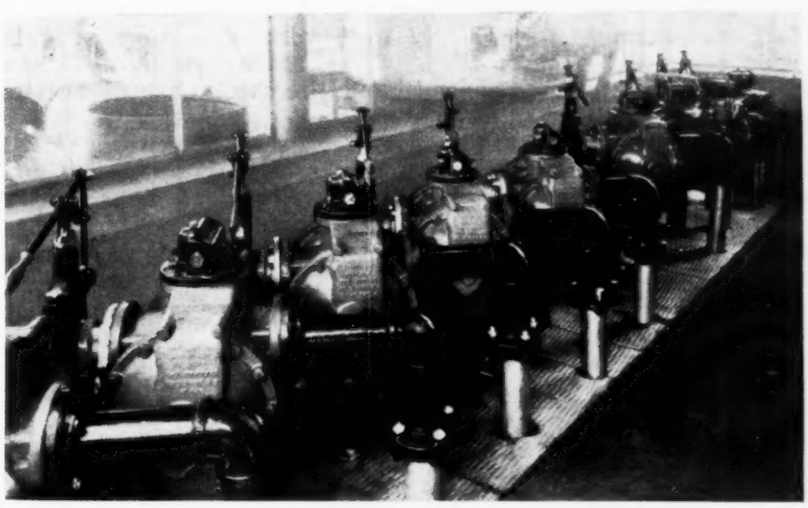
He says that so-called "evaporation" losses in the past actually have been more than half due to inaccurate dispensing, deliberate overloading of tank trucks or unwitting overloading due to erroneous tank calibrations, such as those already discovered by some oil companies and caused largely by tank settling.

Surveys of bulk plant installations have shown unaccounted losses to run from three quarters of one per cent to five per cent of the total sales. Well managed companies without meters appear to have losses of around two per cent, in the northern part of the country.

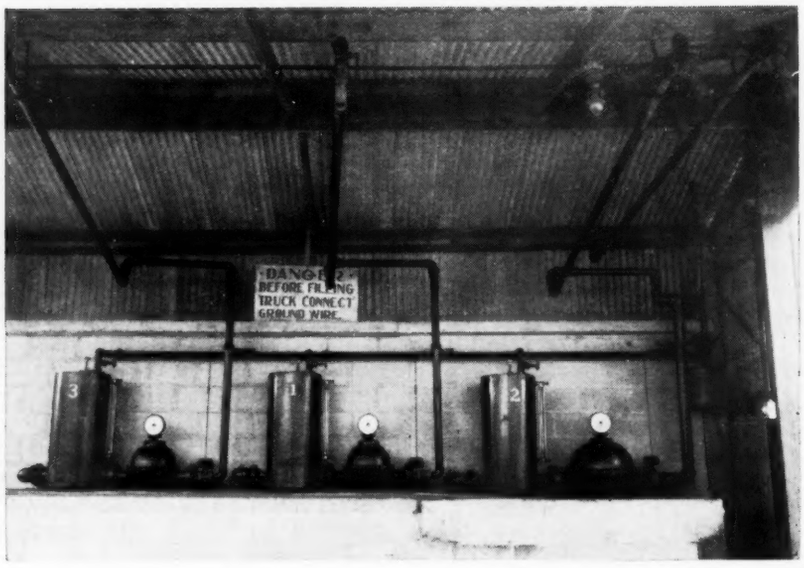
Another use of meters which is growing is on tank trucks. Here, the application is made for the purpose of increasing goodwill among buyers from the trucks and to speed up the trucks.

On the Pacific Coast, where meters for light oils was first developed, approximately 80 per cent of all tank trucks are now meter equipped. East of the Rocky Mountains use on trucks is growing.

Home owners who burn do-



Battery of large size meters at the tank truck loading dock of a California refinery. Gasoline and other products are metered to bulk hauling trains as well as smaller delivery units



Tank truck loading rack at a Long Island bulk plant

mestic fuel oil buy metered fuel oil with more confidence they are getting full measure. Possibly the most important factor in metered fuel oil, and this applies to gasoline also, is that deliveries can be made much more quickly. Bucketing is saved on small orders and routing of trucks is simplified if it is not necessary to send out larger consignments by compartments.

Experience on the Pacific Coast has been that both fuel oil and gasoline customers take larger dumps where trucks are meter equipped. The tank truck salesman is more often able to fill up the available storage room instead of dumping merely a compartment. Where customers order by compartments they usually figure storage room on the safe side to be sure that they can handle a full compartment.

It is claimed by meter manufacturers it is possible to speed up deliveries of gasoline as much as 25 per cent from metered loading docks and through metered trucks. Time is saved in loading by merely shutting off the liquid supply when the meter counter shows the proper gallonage has been delivered, routing time and larger delivery savings have been mentioned before.

The first meters for light oils were brought out in California about 15 years ago. Since then development has been rapid as manufacturers have learned which metals give the greatest satisfaction. Gasoline, being a non-lubricating liquid, required the most research into metals and the most careful building. Fifteen years ago there were fewer "self-lubricating" metals known than today. Monel metal then was probably the most important but had a drawback for displacement meters in that it was subject to too rapid abrasion.

Since the development of stainless steel and certain bronze and aluminum alloys and the development of heat treating methods which will prevent distortion in use, meters have been developed which are claimed to give a high degree of accuracy over a long life period.

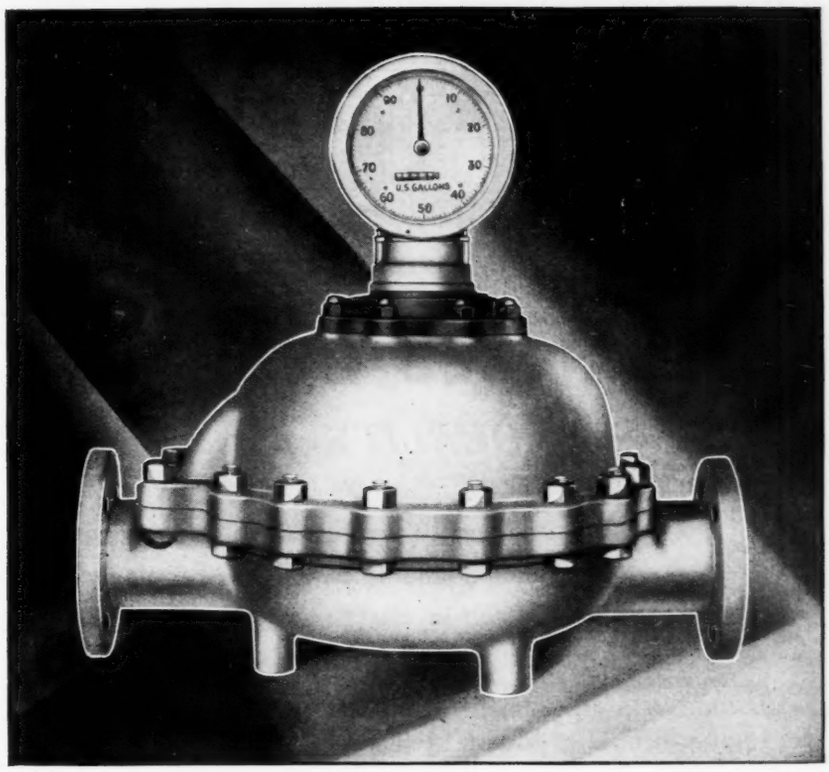
Meters of some of the types used in other liquid industries were not adaptable to use on oil and gasoline. Types not suitable because of large factors of error when flow was irregular include the orifice meters, the bucket or weighing type meter, open impeller meters and enclosed impeller meters. The successful meters include the reciprocating piston type, the nutating disk type and the oscillating piston type.

Maintenance is a small item in connection with the modern meter. The only important direction given by most manufacturers is that foreign material must be kept out of the device. It is essential that a strainer be installed in the line just ahead of the meter. The only other caution necessary is to refrain from dropping heavy objects on the meter case and to keep water out of the meter during freezing weather.

Battery of automatic drum fillers incorporating meters at a Pennsylvania refinery

The distributing branch of the industry is using an increasing number of meters for filling cans and barrels.

The meter method of filling small containers creates very large time savings over the old weighing method. Packaging becomes almost a continuous process instead of an intermittent batch process. A study of the weighing method as compared with the meter method made by an engineer for a meter manufacturer showed that



THIS PRACTICAL METER

Reduces Bulk Plant Shortages

Up-to-date oil companies are finding that even the best of checking and accounting systems do not eliminate the need for reliable gasoline and oil meters. Excessive shortages do persist, until the accurate *automatic* meter detects them.

Says one oil company: "The first month after we installed Niagara Meters, our shortage was 85% less than the preceding month." Another one reports: "For 12 years Niagara Meters have accurately checked every truck filled at our bulk plants, and have detected mistakes that would otherwise go unnoticed. We depend on them". And still another company: "Our customers bring their own trucks to our loading rack. Our Niagara Meters are essential in checking sales accurately".

Wherever gasoline or oil is moved, into tank cars, storage tanks or trucks, Niagara single-positive-piston meters will prove their worth. They avoid human errors, check every gallon and record it automatically, permanently, unchangeably.

Niagara Meters are *practical*, in accuracy, in design, materials, ruggedness, they ask no favor. New refinements have doubled their life, insure sustained accuracy. They are priced to meet 1933 budgets.

Let us help you reduce shortages!

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2889 Main St. Buffalo, N. Y.

Makers of

NIAGARA TANK TRUCK METERS
BUFFALO GASOLINE RETAILING METERS
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Pump-Equipped Tank Trucks

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QUALITY plus SERVICE

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Naturally we feel that our 46 years of compounding experience has played quite a part in establishing the fine reputation for quality enjoyed by TROPHY specialized lubricants . . . . . yet quality alone doesn't tell the full story of steadily increasing sales. SERVICE completes the picture!

TROPHY quality plus STAHL service has helped hundreds of independents to new and bigger profits in the lubrication field.

To be informed costs nothing—to be uninformed might. May we send you samples.

H.K.STAHL COMPANY
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MAKERS OF FINE PETROLEUM PRODUCTS

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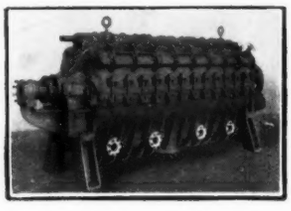

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A Vallez Filter will reduce your 1933 filtration costs. Saves oil, vapor losses, and filter cloth. Closed operation reduces fire hazards. Send for Bulletins.

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6½ minutes were required on the average drum when filled by weighing as compared with four minutes by metering. A refinery compounding and packaging plant found on study that it was giving the customer an extra half gallon of lubricating oil in the average 55-gallon drum.

The meter can and barrel fillers are used both at the bulk distributing plant and at the refinery packaging plant.

At the refinery meters are being installed to check boiler plant and still efficiencies. Fuel is measured to boilers, for example, and steam production is measured from which it is possible to calculate efficiency and correct errors.

Yields are being checked more closely in distillation by metering oil to stills, distillates to run-down tankage and residuum to storage. On plants where loading is done from tankage where pumping in is going on at the same time it is impossible to get a quiet gauge and check yields and withdrawals accurately without meters. Meters also give far greater accuracy than is possible by gauging large diameter tanks.

In marine loading large capacity meters are being used in preference to steamer gauges because of greater accuracy.

Interdepartmental controversies are eliminated at the refinery when transfers from department to department are metered. The cracking department head need no longer quarrel with the straight distillation department on cracking stock deliveries, the lube packaging plant has a complete record of its receipts and shipments and so on.

Refineries with bulk distributing plants on the same or adjacent property to which light distillates are transferred by pipeline find that metered deliveries save a vast amount of accounting difficulty.

Treating plant losses are checked automatically and remedies can be applied promptly where distillates are metered in and out of that section of the plant.

In marine loading large capacity meters are finding a place instead of steamer compartment gauges because of greater accuracy.

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Refinery - Tank Wagon Markets

Burning Oil Prices Rally As Zero Weather Sweeps Country; Other Oils Steady

CLEVELAND, Feb. 14

BURNING oils came to the foreground in refinery markets last week as zero and sub-zero temperatures spread over the country eastward from the Rocky Mountains. In favoring burning oils, weather conditions hampered consumption of motor fuel and lubricating oil. With few exceptions, however, these commodities were fairly steady in price.

Outside of the eastern territory, little change was noted in retail gasoline markets. There was a price war at Boston with retail gasoline dropping 2 cents a gallon. The major retail market change of the week, however, was a 1 to 1.5-cent cut by Atlantic Refining Co. in its territory. In other parts of the country, price cutting appeared to be at a minimum.

The zero weather caught the middle western trade off guard. Jobbers had some burning oil in storage but apparently they were not prepared for such a drastic change in the weather. Then, too, the zero temperatures hit farther south than usual, abnormally low recordings being reported from as far south as Texas.

Buyers clamored for rush shipments of supplies. General market prices for all grades of home heating oils moved up 0.125 to 0.25 cent a gallon in all Mid-Continent districts and when sellers were in position to give car numbers immediately upon receipt of orders, premiums of 0.125 cent a gallon were obtained.

The burning oils also featured trading in other markets from coast to coast. On the west coast there was excellent demand for smudging oil for the citrus groves. In the east, the weather was as severe as it was in the middle west; demand there was good although prices were not affected favorably.

According to reports of sellers in most parts of the country, contract shipments of gasoline were going out in fairly good volume but open market demand from the jobbing trade was at low ebb. Sizable quantities of gasoline, however, continued to be taken from the Mid-Continent for export and coastwise trades with the result that the situation there remained good. Pennsylvania gasoline was down 0.5 cent following Atlantic's retail price cut, but prices in all other markets appeared to be steady to higher.

Lubricating oil prices in Pennsylvania steadied somewhat following the sharp reductions of the previous week. Mid-Continent bright stock prices were reduced another 0.375 cent to bring them down more in line with Pennsylvania and there were also further adjustments in Mid-Continent neutrals prices. Demand for lubes in Pennsylvania was reported on the increase. The 200 at 70 No. 3 color neutral, and various blends with this grade, came in for heavy play. Distributors apparently were preparing for the change in specifications of oils bearing the emblem of the Pennsylvania Grade Crude Oil Association which becomes effective March 1.

Cargo gasoline was active at the Gulf and there was increased demand for packaged lots. Three cargoes of gasoline were booked in export trades and one for coastwise shipment. Prices obtained were only slightly under the level of general market quotations.

Chicago Prices Turn Upward; Heating Oils Active

Staff Special
CHICAGO, Feb. 11

TANK car markets for both gasoline and heating oils turned about face in the week ended Feb. 11 and ruling prices were higher as compared to the declining market of the previous few weeks. The advance in heating oils was due largely to the sub-normal temperatures which prevailed most of the week. The gasoline price advance was made in spite of adverse weather conditions.

The gradual betterment in the gasoline market, which has been apparent lately, came to a head towards the end of the week with an advance of 0.125 cent in prices for low octane U. S. Motor. Jobber buying was not heavy but there seemed to be little reluctance to paying higher prices. Several jobbers said they were not trying to push the tank car market to lower levels as they were afraid it would bring a general cut in retail gasoline prices.

Summary of Group 3 Quotations for U. S. Motor Gasoline

In Effect Feb. 13, 1933

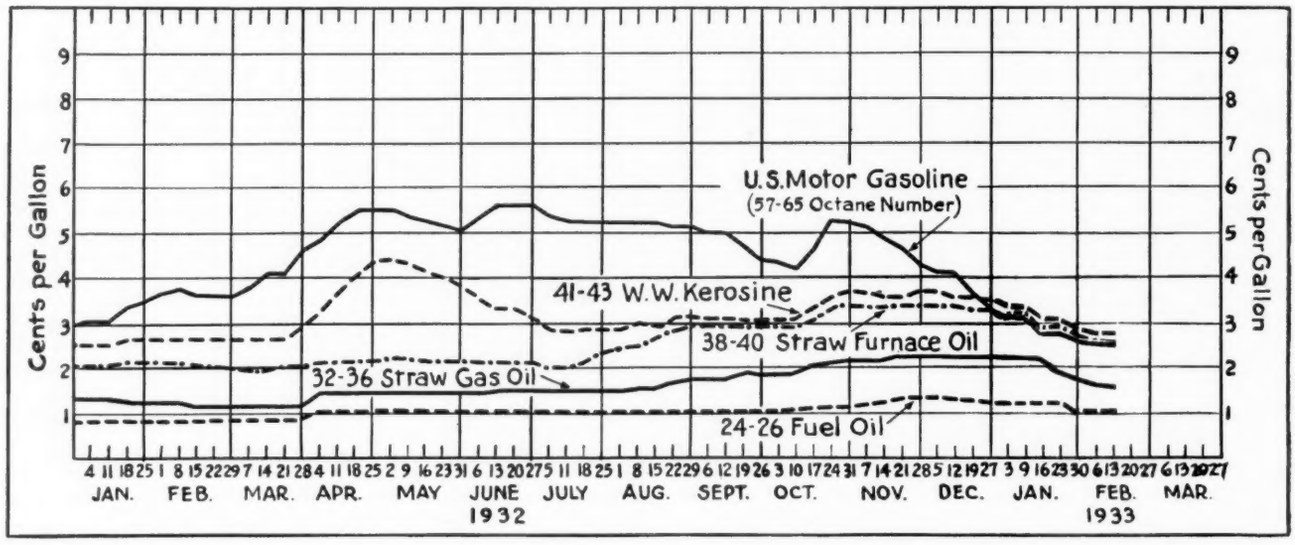
	Below 57 Octane No.	57-65 Octane No.	Above 65 Octane No.
Okla.	2.125-2.375	2.50-2.625	2.75-3.00
Kans.	2.125-2.375	2.50-2.625	2.75-3.00
N. Tex.	2.25-2.375	2.50-2.625	2.75-3.00
W. Tex.	2.25-2.375	2.50-2.625	2.75-3.00
E. Tex.	2.125-2.25	2.50-2.625	2.75-2.875
La.-Ark.	2.125-2.375	2.50-2.75	2.75-3.00
Ind.-Ill.	2.125-2.25	.....	.....

Prices are those quoted on the basis of f.o.b. Group 3 by refiners in the districts designated.

Prevailing quotations on U. S. Motor, below 57 octane number, ranges from 2.125 to 2.25 cents by Feb. 9, compared to a spread of 2 to 2.25 cents on Feb. 6. Carlot marketers reported that in only a very few instances were they able to buy U. S. Motor at under 2 cents. Refiners generally refused to sell direct to jobbers at under 2.125 cents for low octane Motor.

Refiners in the East Texas area, who have been a consistent source of supply for spot market buyers in this territory, were not anxious to sell much gasoline and generally raised their prices 0.125 to 0.25 cent. The sale of

Current Prices of Principal Mid-Continent Refined Products



Prices shown are in Group 3 basis and extended to date shown in Refinery Market Table Section of this issue

a considerable quantity of gasoline by the East Texas refiners for coastwise shipment was reported to have practically cleaned them out for the time being.

Kerosine was moderately active during the week with a pick-up in demand noted during the closing days. The increase was largely due to buying of the 41-43 w.w. grade for use as furnace oil, it was reported. Little change was noted in prices, with sales generally reported at 2.5 cents and up.

Furnace and gas oils were in considerably better position by the end of the week. The sub-zero temperatures which prevailed over the middle west, accompanied by heavy snows in many sections, brought about a heavy demand for good grades of burner oil. Distributors reported an excellent demand from home burner owners, but said that tank wagon deliveries were hampered considerably by the snow.

Tank car demand was good and in some cases refiners were getting a premium for material which they were able to ship immediately upon receiving the order. Prices were up 0.25 cent during the week in most quarters. Zero fuel oils also were in good demand and were up 5 cents a barrel.

Mid-Continent Refinery Markets

Burning Oils Rally With Zero Weather

Staff Special
TULSA, Feb. 11.

THE blizzard with its sub-zero temperatures which swept suddenly over the middle west and as far south as Texas early in the current week had an over-night effect on the heating oils demand in the Mid-Continent refining area.

Buyers began seeking all grades of heating oils. Whereas a week ago furnace and gas oils and several grades of fuel oils had been freely offered and prices had declined, the situation was completely reversed and in several instances premiums were offered for some grades of furnace oil provided the shipper could furnish car numbers. Several refiners who had offered these oils early in the month, withdrew from the open market entirely, reporting their contract demand had increased sufficiently to take them out of the picture.

Prices for several grades of heating oils advanced from 0.125 to 0.375 cent a gallon.

In some instances refiners, being unable to furnish furnace oil to their customers, arranged to ship them kerosine in the emergency.

The gasoline market was comparatively steady throughout the week. Some softening was reported at the beginning of the week in Chicago but that apparently was short lived and had little lasting effect in the Mid-Continent proper.

East Texas refiners were still in an excellent position. Reports Feb. 11 but not confirmed prior to close of business indicated some sizeable buying for either export or coastwise had been done in Louisiana and Arkansas. North and West Texas remained in excellent shape with the bulk of what gasoline was produced being consumed locally.

In Oklahoma, refiners for the most part made no changes in quotations. After the softening in Chicago was reported one or two refiners announced lower quotations to carlot marketers but apparently withdrew them as soon as the Chicago district reported a better undertone.

Jobbers apparently were about in the mood to buy more gasoline and

(*Continued on page* 58)

Prices A Year Ago

Feb. 15, 1932

	Oklahoma	Penna.
58-60 U. S. Motor (57-65) Octane No. in Okla.	3.50-3.75	4.00-4.25
Grade 26-70, Natural Gasoline	1.375-1.50	.....
Kerosine (Okla. 41-43; Pa. 47 w.w.)	2.625-2.75	4.50-4.75
Fuel oil (Okla. 24-26; Pa. 36-40)	$0.325-$0.35	2.75-3.00
Crude (Okla. 35-35.9)	$0.75	$1.80
Chicago tank wagon (including 3c tax)	.....	15.00c

Compilation Of Mid-Continent Refinery Operations

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Mid-Continent Refinery Operations, Week Ended Feb. 10 (By Teletype)

	Kansas	Oklahoma	North & Cent. Texas	West Texas	North La.-Ark.	Total Week Ended Feb. 10
Plants Operating.....	10	23	23	10	10	76
Da. Av. Cap. Bbls....	94,000	162,500	107,400	71,500	60,700	496,100
Da. Cracking Capacity	53,200	64,600	23,100	26,250	31,700	198,850
Da. Av. Crude Runs..	55,271 — 0.8	70,530 + 10.8	45,876 + 6.4	7,449 + 27.3	36,954 + 11.3	216,080 + 7.2
Da. Av. Other Oil....	—2,959	2,975 — 44.1	2,317 + 26.3		15,115 + 0.4	17,448 — 41.8
GASOLINE—Gallons						
Stocks, Feb. 3.....	32,912,000	51,130,000	29,685,000	5,402,000	7,723,000	126,852,000
Prod. 2-3 to 2-10.....	9,006,000 — 4.1	10,626,000 + 5.6	8,415,000 + 44.0	695,000 + 72.5	6,096,000 + 24.2	34,838,000 + 6.0
Ship. 2-3 to 2-10.....	7,169,000 — 18.9	9,062,000 — 2.8	7,874,000 + 37.2	1,007,000 — 15.8	5,625,000 + 1.3	30,737,000 — 5.9
Stocks, Feb. 10.....	34,749,000 + 8.2	52,694,000 + 3.1	30,226,000 + 1.8	5,090,000 — 5.8	8,194,000 + 6.1	130,953,000 + 3.2
Ratio Sales to Prod...	79.6%	85.3%	93.6%	144.9%	92.3%	88.2%
KEROSINE—Gallons						
Stocks, Feb. 3.....	5,634,000	5,195,000	1,219,000		763,000	12,811,000
Prod. 2-3 to 2-10.....	1,292,000 — 48.2	1,630,000 + 18.5	623,000 + 2.3		471,000 + 14.9	4,016,000 — 17.8
Ship. 2-3 to 2-10.....	1,618,000 — 10.8	1,469,000 + 14.1	598,000 — 17.3		380,000 +201.6	4,065,000 + 2.9
Stocks, Feb. 10.....	5,308,000 — 5.8	5,356,000 + 3.1	1,244,000 + 2.1		854,000 + 11.9	12,762,000 — 0.4
Ratio Sales to Prod...	125.2%	90.1%	96.0%		80.9%	101.2%
FURNACE OIL—Gallons						
Stocks, Feb. 3.....	1,663,000	3,978,000	324,000		289,000	6,254,000
Prod. 2-3 to 2-10.....	471,000 + 45.8	758,000 — 26.3	97,000 +361.9		167,000 — 5.7	1,493,000 — 3.7
Ship. 2-3 to 2-10.....	652,000 +199.1	1,705,000 + 40.8	317,000 +151.6		176,000 + 8.6	2,850,000 + 66.0
Stocks, Feb. 10.....	1,482,000 — 10.9	3,031,000 — 23.8	104,000 — 67.9		280,000 — 3.1	4,897,000 — 21.7
Ratio Sales to Prod...	138.4%	224.9%	326.8%		105.4%	190.9%
GAS OIL—Gallons						
Stocks, Feb. 3.....	2,384,000	16,933,000	5,580,000	493,000	4,285,000	29,675,000
Prod. 2-3 to 2-10.....	581,000 — 5.1	1,826,000 — 11.8	77,000 — 82.4	479,000 + 84.9	2,164,000 + 2.5	5,127,000 — 6.6
Ship. 2-3 to 2-10.....	1,132,000 + 92.8	1,935,000 + 55.5	825,000 +323.1	159,000 — 19.7	2,580,000 + 61.1	6,631,000 + 73.3
Stocks, Feb. 10.....	1,833,000 — 21.1	16,824,000 — 0.6	4,832,000 — 13.4	813,000 + 64.9	3,869,000 — 9.7	28,171,000 — 5.1
Ratio Sales to Prod...	194.8%	106.0%	1,071.4%	33.2%	119.2%	129.3%
FUEL OIL—Gallons						
Stocks, Feb. 3.....	8,243,000	47,711,000	61,309,000	10,673,000	15,579,000	143,515,000
Prod. 2-3 to 2-10.....	3,549,000 — 13.7	3,900,000 + 7.5	4,595,000 + 44.1	1,109,000 + 12.2	3,495,000 — 40.1	16,648,000 — 6.2
Ship. 2-3 to 2-10.....	4,234,000 + 13.5	2,157,000 — 43.4	2,541,000 — 6.3	130,000 — 82.4	3,479,000 — 33.7	12,541,000 —22.8
Stocks, Feb. 10.....	7,558,000 — 8.3	49,454,000 + 3.7	63,363,000 + 3.4	11,652,000 + 9.2	15,595,000 + 0.1	147,622,000 + 2.9
Ratio Sales to Prod...	119.3%	55.3%	55.3%	11.7%	99.5%	75.3%

Gasoline Produced by Various Methods, Week Ended Feb. 10

	Kansas	% of Total	Oklahoma	% of Total	North & Cent. Texas	% of Total	West Texas	% of Total	Louisiana-Arkansas	% of Total	Total	% of Total
Straight Run.....	4,811,000	53.4	6,084,000	57.3	5,127,000	60.9	646,000	92.9	2,719,000	44.6	19,387,000	55.6
Cracked.....	3,413,000	37.9	3,600,000	33.9	2,868,000	34.1	.....	....	2,957,000	48.5	12,838,000	36.9
Natural.....	782,000	8.7	942,000	8.8	420,000	5.0	49,000	7.1	420,000	6.8	2,613,000	7.5
Total.....	9,006,000		10,626,000		8,415,000		695,000		6,096,000		34,838,000	

+ or — columns are % change over previous week.

Domestic Furnace Oil Stocks Cut by Cold Wave

Staff Special—By Teletype

TULSA, Feb. 14

THE midwestern blizzard last week brought with it a sharp increase in demand for household heating oils. Rush orders reaching Mid-Continent refiners reporting weekly to this publication caused an increase of 1,140,000 gallons in shipments of furnace oil and an increase of 2,800,000 gallons in gas oil shipments. Stocks of both commodities were reduced substantially.

Demand for fuel oil did not keep pace with the orders for lighter heating oils. Stocks of residual fuel oil increased 4,000,000 gallons.

Refiners increased their runs of crude to stills 14,500 barrels daily average. Production of gasoline was increased 2,000,000 gallons as a consequence. At the same time the unfavorable weather caused shipments to drop 1,900,000 gallons. Stocks increased 4,100,000 gallons.

Summary for the Month

Production and shipments, all reporting refineries, for four weeks ended Feb. 10. Change in stocks figured from Jan. 13.

GASOLINE

	Gallons
Production	140,643,000
Shipments	129,947,000
Net change in stocks	+10,696,000
Ratio sales to production	97.3%

KEROSINE

	Gallons
Production	17,122,000
Shipments	16,432,000
Net change in stocks	+690,000
Ratio sales to production	96.0%

FURNACE OIL

	Gallons
Production	6,750,000
Shipments	8,275,000
Net change in stocks	—1,525,000
Ratio sales to production	122.6%

GAS OIL

	Gallons
Production	19,452,000
Shipments	18,608,000
Net change in stocks	+844,000
Ratio sales to production	95.7%

FUEL OIL

	Gallons
Production	69,142,000
Shipments	59,410,000
Net change in stocks	+9,732,000
Ratio sales to production	85.9%

Chicago Tank Car Market

Following prices are in cents per gallon, except fuel oil in barrels, in tank car lots, representing majority of sales to jobbers on Group 3 freight basis, although shipments may originate in other refining districts, such as North, West and East Texas, Louisiana, Arkansas, Indiana, Illinois, Kentucky, etc. Prices do not include state or federal taxes levied on some products.

	Prices Feb. 13	Prices Feb. 6	Prices Jan. 30
50-52, 437 e.p. naphtha	2.00 – 2.125	2.00 – 2.125	2.00 – 2.125
U. S. Motor Gasoline:			
Below 57 octane number	2.125– 2.25	2.00 – 2.25	2.125– 2.375
57-65 octane number	2.375– 2.625	2.375– 2.625	2.375– 2.625
Above 65 octane number	2.625– 2.875	2.625– 2.875	2.75 – 3.00
60-62, 400 e.p. gasoline			
Below 57 octane number	2.125– 2.375	2.125– 2.375	2.25 – 2.375
57-65 octane number	2.50 – 2.75	2.50 – 2.75	2.50 – 2.75
Above 65 octane number	2.75 – 3.00	2.75 – 3.00	2.75 – 3.00
64-66, 375 e.p. gasoline	2.75 – 3.00	2.75 – 3.00	2.875– 3.125
68-70, 350-360 e.p. gasoline	2.875– 3.125	2.875– 3.125	3.125– 3.25
Aviation Gasoline, below 73 octane number	3.50 – 3.75	3.50 – 3.75	3.50 – 3.75
41-43 water white kerosine	2.50 – 2.75	2.50 – 2.75	2.875– 3.00
42-44 water white kerosine	2.625– 2.875	2.625– 2.875	3.00 – 3.125
38-40 prime white Furnace Oil	2.50 – 2.625	2.25 – 2.50	2.625– 2.75
38-40 straw Furnace Oil	2.375– 2.50	2.25 – 2.375	2.625– 2.75
32-36 dark gas oil	1.375– 1.625	1.375– 1.625	1.50 – 1.75
32-36 dark zero gas oil	2.375	2.25	2.50 – 2.625
32-36 straw zero gas oil	2.50 – 2.625	2.25 – 2.50	2.625
28-30 zero fuel oil (per bbl.)	$0.875–$0.925	$0.825–$0.90	$0.925–$0.975
28-30 fuel oil (per bbl.)	$0.70 –$0.80	$0.70 –$0.80	$0.775–$0.85
24-26 fuel oil (per bbl.)	$0.425–$0.475	$0.425–$0.475	$0.425–$0.50
18-22 fuel oil (per bbl.)	$0.35 –$0.40	$0.35 –$0.40	$0.35 –$0.40
18-22 zero fuel oil (per bbl.)	$0.50 –$0.525	$0.45 –$0.50	$0.475–$0.55
14-16 fuel oil (per bbl.)	$0.30 –$0.325	$0.30 –$0.325	$0.30 –$0.325

*Nominal.

Naphtha and Solvent

(Prices are in cents per gallon, in tank car lots, as quoted by Chicago sellers)

	Feb. 13		Feb. 6	
	F.O.B. Group 3 Basis	F.O.B. Chicago District	F.O.B. Group 3 Basis	F.O.B. Chicago District
Stoddard Solvent	5.00 – 5.25	7.00 – 9.00	5.00 – 5.25	7.00 – 9.00
V.M. & P. Naphtha	5.125– 5.50	7.50	5.125– 5.50	7.50
Cleaners Naphtha	5.50 – 5.75	9.00	5.50 – 5.75	9.00
Oleum Spirits	4.25 – 4.50	6.00	4.25 – 4.50	6.00
Rubber Solvent	5.00 – 5.50	10.00	5.00 – 5.50	10.00
Lacquer Diluent	6.75 – 7.00	9.50	6.75 – 7.00	9.50

Mid-Continent Market

(*Continued from page 56*)

to put a portion of it into storage. There was an unmistakable feeling in the Mid-Continent that despite the sensational occurrences in Oklahoma City that the crude situation was becoming more stabilized and that constructive efforts toward proration were being formulated.

The blizzard was of sufficient intensity to curtail considerably the natural gasoline production in the Mid-Continent area, and with demand fairly constant the market was in an excellent position. It was felt in some quarters that the situation was so favorable that an advance in prices would have resulted by this time had it not been for the "low ceiling" caused by U. S. Motor gasoline prices.

Most of the natural gasoline buying for export was in odd car lots, no concerted effort apparently being made to obtain any quantity for that destination.

The continued softening in the Pennsylvania bright stocks and neutral oils had its effect on the Mid-Continent price lists. Refiners early in the week announced lower neutral oils prices after having reduced bright stocks around Feb. 1. Several of them Feb. 11 mailed out new price lists to be effective Feb. 13.

These new price lists reduced bright stocks 0.25 to 0.375 cent a gallon, depending on the grade.

The neutral oils quotations showed lower quotations for some grades and slightly higher ones for other grades, as compared with quotations earlier in the week. This was due primarily to the leveling out of the list generally to be more uniformally in line with Pennsylvania oils.

Wax quotations showed little change with a few makers reporting a lighter demand the past several days. Many of them, however, said they still had sufficient orders to keep production moving fairly well for the next few weeks.

Kentucky Jobbers Hold Meeting Next Week

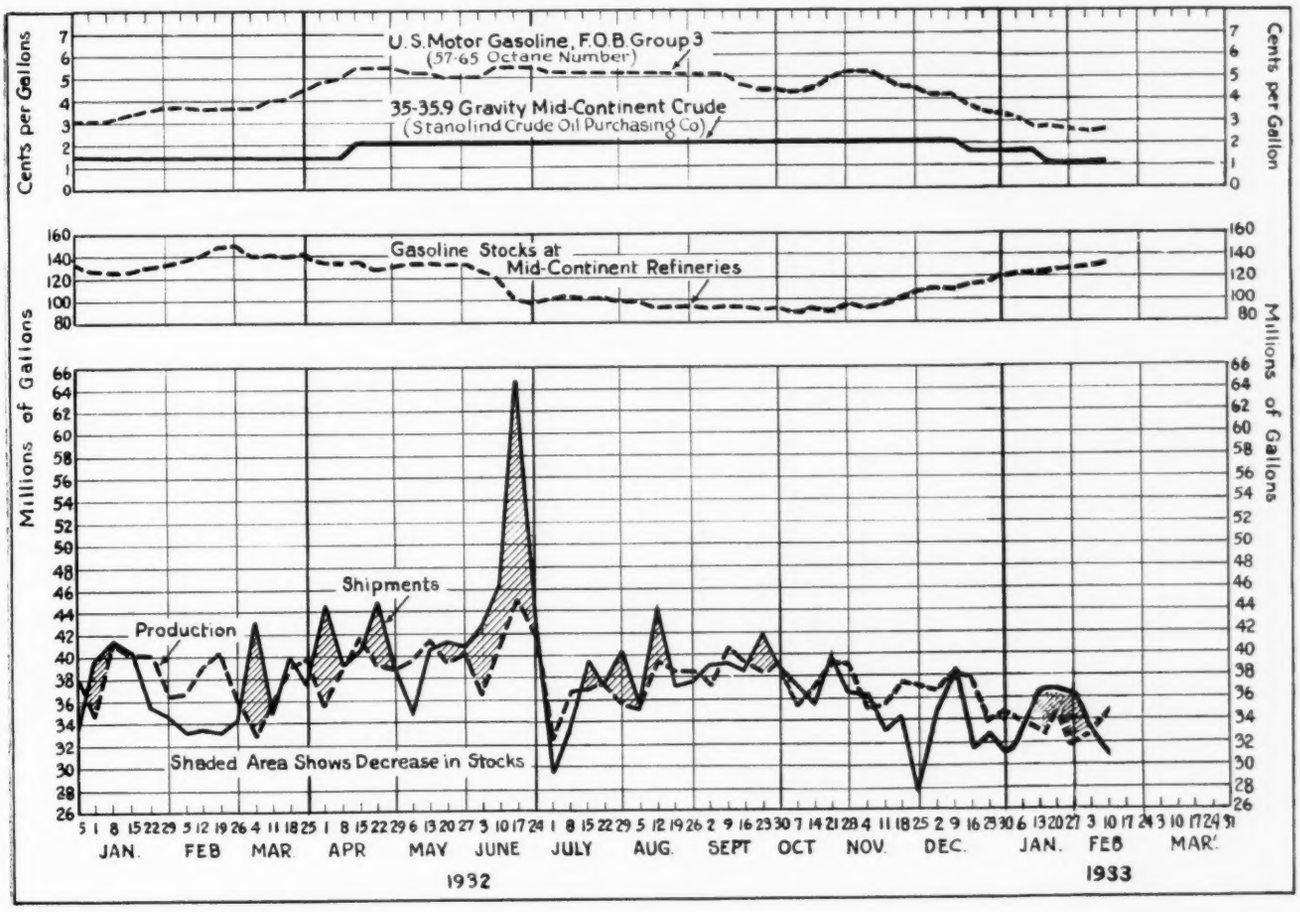
LOUISVILLE, Feb. 11.—The convention of the Kentucky Petroleum Marketers Association will open at the Brown hotel, Louisville, Feb. 21 with a meeting of the legislative and finance committees at 2 p.m. An hour later the committees will meet with the board of directors.

The Kentucky Petroleum Industries Committee has a dinner meeting at 6 p. m. Feb. 21 to discuss plans for a legislative program in next year's meeting of the general assembly.

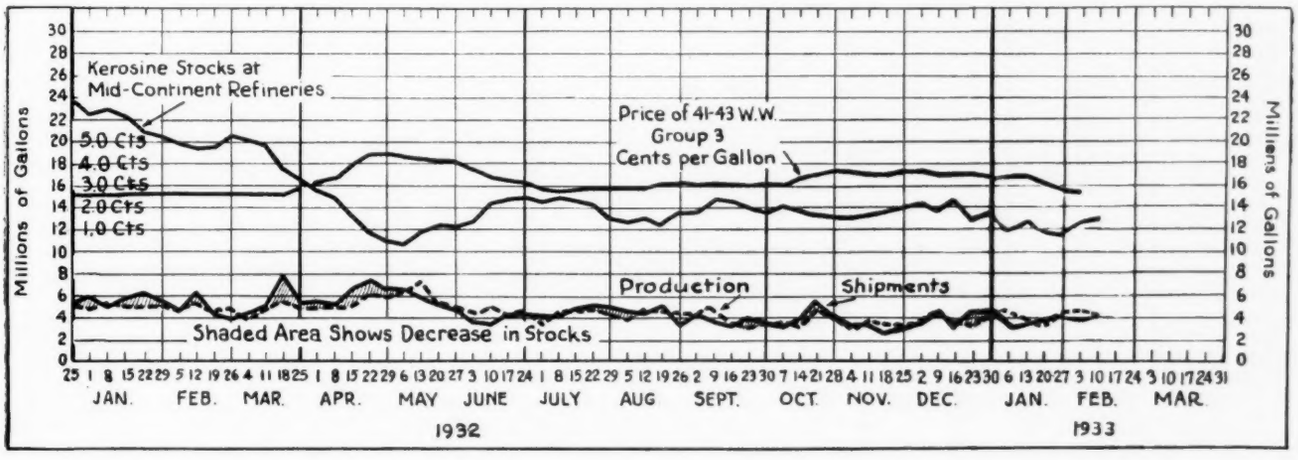
The annual business meeting is scheduled for 10 a.m. Feb. 22 to be followed by a group luncheon. Speakers on the afternoon's program are Carl Barker, director of public relations, Shell Petroleum Corp., St. Louis, and Senator Seldon R. Glenn, Kentucky State Tax Commissioner. The banquet will be held on the evening of Feb. 22.

Barometer of Mid-Continent Refinery Market—Week Ending Feb. 10

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, from Reports Made by 76 Plants to National Petroleum News



Prices shown above are extended to date shown in Refinery Market and Crude tables in Market section of this issue and stocks, shipments and Production are extended to date as shown in the table on page 57



Capacity Chart Revision

Graham Paige Motors Corp. is recommending free wheeling lubricant for transmission and differential lubrication, as well as for the free wheeling unit which is filling separately from the transmission on Graham cars. The recommendation is for 110 free wheeling lubricant in summer and 90 FW in winter for all three assemblies. Capacity corrections on the N. P. N. 1933 Passenger Car Capacity Chart for the Graham 6 are: transmission 2½ pints; differential 3 pints; free wheeling unit ½ pint. Capacity for free wheeling unit of the Graham 8 is 1½ pints. Other capacities are previously published.

Gasoline Seized for Evasion

NEW ORLEANS, Feb. 11.—Right of the state of Louisiana to seize a carload of gasoline for alleged failure of an oil company to pay the gasoline tax, has been upheld by the state supreme court which has ordered the judge of a district court to issue a writ of attachment.

Refinery Markets on Light Oils and Lubricants

Prices given below are in cents per gallon, except where $ is shown in tank car lots, f.o.b. Refinery. They represent prices made only to domestic jobbers who resell to the consuming public, except where otherwise noted. Tank car prices do not include state or federal taxes levied on some products.

(These Refinery Prices compiled in the OIL PRICE HANDBOOK for a whole year)

GASOLINE AND NAPHTHA

	Prices Feb. 13	Prices Feb. 6	Prices Jan. 30
OKLAHOMA (F. o. b. Oklahoma refineries)			
50-52, 450 e.p. naphtha...	2.00 – 2.125	2.00 – 2.125	2.125
U. S. Motor Gasoline			
Below 57 octane number	2.125– 2.375	2.125– 2.375	2.25 – 2.375
57-65 octane number...	2.50 – 2.625	2.50 – 2.625	2.50 – 2.75
Above 65 octane number	2.75 – 3.00	2.75 – 3.00	2.875– 3.125
60-62, 400 E.P. Gasoline..			
Below 57 octane number	2.25 – 2.50	2.25 – 2.50	2.375– 2.50
57-65 octane number...	2.625– 2.75	2.625– 2.75	2.625– 2.875
Above 65 octane number	2.875– 3.125	2.875– 3.125	3.00 – 3.25
64-66, 375 E.P. Gasoline..	3.00 – 3.125	3.00 – 3.125	3.00 – 3.125
68-70 350-360 e.p. gasoline	3.125– 3.25	3.125– 3.25	3.25 – 3.375
Aviation Gasoline,			
Below 73 Octane number	3.50 – 3.75	3.75 – 4.00	3.75 – 4.00
PENNSYLVANIA (F. o. b. Western Pennsylvania refineries)			
52-54 Naphtha.....	4.25 – 4.50	4.75 – 5.00	4.875– 5.125
54-56 Naphtha.....	4.50 – 4.75	5.00 – 5.25	5.00 – 5.25
U. S. Motor (58-62).....	4.50 – 4.75	5.00 – 5.25	5.00 – 5.25
64-66 390 e.p. gasoline...	4.75 – 5.00	5.25 – 5.50	5.25 – 5.50
68-70 350-360 e.p.....	5.00 – 5.50	5.50 – 6.00	5.50 – 6.00
OHIO (Quotations of S. O. Ohio. Delivered any point in Ohio.)			
U. S. Motor Gasoline....	5.425	5.425	5.425
60-65 Octane number....	5.80	5.80	5.80
Above 65 Octane number.	6.175	6.175	6.175
KANSAS (F. o. b. refinery, Kansas destination)			
U. S. Motor Gasoline			
Below 57 octane number	2.375– 2.50	2.375– 2.50	2.50 – 2.625
57-65 octane number...	2.625– 2.875	2.75 – 2.875	2.875– 3.125
Above 65 octane number	2.875– 3.125	3.00 – 3.125	3.125– 3.375
60-62 400 e.p. gasoline....	2.50 – 2.625	2.50 – 2.625	2.625– 2.875
NORTH TEXAS‡ (F. o. b. Wichita Falls district refineries for unrestricted shipment)			
U. S. Motor Gasoline			
Below 57 octane number	2.25 – 2.375	2.25 – 2.375	2.25 – 2.375
57-65 octane number...	2.50 – 2.625	2.50 – 2.625	2.50 – 2.75
Above 65 octane number	2.75 – 3.00	2.875– 3.00	2.875– 3.125
60-62 400 e.p. gasoline...	2.375– 2.50	2.375– 2.50	2.375– 2.50
64-66 375 e.p. gasoline...	3.00 – 3.125	3.00 – 3.125	3.00 – 3.125
68-70 350-360 e.p. gasoline	3.00 – 3.25	3.00 – 3.25	3.00 – 3.25
WEST TEXAS‡ (F. o. b. West Texas refinery for unrestricted shipment)			
U. S. Motor Gasoline			
Below 57 Octane number	2.25 – 2.375	2.25 – 2.375	2.25 – 2.375
57-65 Octane number...	2.50 – 2.625	2.50 – 2.625	2.50 – 2.75
Above 65 Octane number	2.75 – 3.00	2.875– 3.00	2.875– 3.125
EAST TEXAS‡ (F. o. b. East Texas refineries for unrestricted shipment)			
U. S. Motor Gasoline			
Below 57 octane number	2.125– 2.25	2.125	2.00 – 2.125
57-65 octane number..	2.375– 2.50	2.375– 2.50	2.25 – 2.50
Above 65 octane number	2.50 – 2.75	2.50 – 2.75	2.625– 2.75
NORTH LOUISIANA (For Louisiana and Arkansas destination)			
U. S. Motor Gasoline			
Below 57 Octane number	2.75	2.75	2.75
57-65 Octane number..	3.125	3.125	3.125
Above 65 Octane number	3.375	3.375	3.375
ARKANSAS (For Arkansas and Louisiana destination)			
U. S. Motor Gasoline			
Below 57 Octane number	2.75	2.75	2.75
57-65 Octane number..	3.125	3.125	3.125
Above 65 Octane number	3.375	3.375	3.375
CALIFORNIA (3c tax to be added to California gasoline prices if used in state.)			
54-58 U.S. Motor 437 e.p.	4.625– 7.00	4.50 – 7.50	4.75 – 8.00
54-58 U.S. Motor, 437 e.p., for outside state shipment	4.50 – 5.50	4.50 – 5.50	4.50 – 4.75
42-45 Engine Distillate 445-480 e.p.....	5.75 – 7.00	5.75 – 7.00	6.00 – 7.00

‡Refiners generally receive 0.25c to 0.5c per gallon more for gasoline and kerosine for local or differential territory shipment.

†Prices Nominal. ††Only one refiner Quoting. *Quotations only.

NATURAL GASOLINE

	Prices Feb. 13	Prices Feb. 6	Prices Jan. 30
OKLAHOMA (F. o. b. Group 3)			
Grade 26-70.....	2.00	2.00	2.00
NORTH TEXAS (F. o. b. Breckenridge)			
Grade 26-70.....	2.00	2.00	2.00
CALIFORNIA (F. o. b. California refineries)			
75-85, 375-390 e.p. for blending.....	3.75 – 4.50	3.75 – 4.50	4.25 – 5.25

BURNING OILS

PENNSYLVANIA (F. o. b. Western Pennsylvania refineries)			
45 w.w. kerosine.....	4.50 – 4.75	4.50 – 4.75	4.375– 4.75
46 w.w. kerosine.....	4.625– 4.75	4.625– 4.75	4.625– 4.875
47 w.w. kerosine.....	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
OKLAHOMA (F. o. b. Oklahoma refineries)			
41-43 w.w. kerosine.....	2.625– 2.75	2.625– 2.875	2.875– 3.00
42-44 w.w. kerosine.....	2.75 – 2.875	2.75 – 3.00	3.00 – 3.125
KANSAS (F. o. b. refinery Kansas destination)			
41-43 w.w. kerosine.....	2.75 – 2.875	2.875– 3.00	3.00 – 3.125
42-44 w.w. kerosine.....	2.875– 3.125	3.00 – 3.125	3.125– 3.25
NORTH TEXAS‡ (F. o. b. Wichita Falls district refineries for unrestricted shipment)			
41-43 w.w. kerosine.....	2.75 – 2.875	2.875– 3.00	3.00 – 3.125
NORTH LOUISIANA‡ (For Louisiana and Arkansas destination)			
41-43 w.w. kerosine.....	3.50	3.50	3.75
ARKANSAS‡ (For Louisiana and Arkansas destination)			
41-43 w.w. kerosine.....	3.75	3.75	4.00
CALIFORNIA (F. o. b. California refineries)			
38-40 w.w. kerosine.....	3.75 – 4.50	3.75 – 4.50	3.75 – 4.50

NEUTRAL OIL

PENNSYLVANIA (F. o. b. Western Pennsylvania refineries)

Vis.	Viscous Neutrals (Viscosity at 70° F.) Prices Feb. 13	Prices Feb. 6	Prices Jan. 30
200 (180 at 100) No. 3 color 420-425 flash:			
Zero pour test.....	14.75 –15.00	15.00 –16.00	17.00 –19.00
10 pour test.....	14.00 –14.50	14.00 –15.00	16.00 –18.00
15 pour test.....	12.75 –13.00	12.75 –13.75	14.00 –16.00
25 pour test.....	12.00 –12.50	12.00 –12.50	13.25 –13.75
180 No. 3 color, 410-415 flash:			
25 pour test.....	10.50 –11.00	10.50 –11.00	11.50 –12.50
150 No. 3 color, 400-405 flash:			
Zero pour test.....	10.75 –11.25	11.00 –12.00	11.50 –12.00
10 pour test.....	10.50 –11.00	10.50 –11.00	11.00 –11.50
15 pour test.....	8.75 – 9.00	9.00 – 9.50	9.75 –10.50
25 pour test.....	7.75 – 8.00	8.00 – 8.50	9.00 – 9.50

Refinery Markets Wax, Lubricants, Heavy Oil

Prices given below are in cents per gallon, except where $ is shown in tank car lots, f.o.b. Refinery. They represent prices made only to domestic jobbers who resell to the consuming public, except where otherwise noted. Tank car prices do not include state or federal taxes levied on some products.

(For quick reference to Refinery Prices, get the OIL PRICE HANDBOOK, published annually)

****MID-CONTINENT** (F. o. b. Mid-Continent Refineries)

Vis. Color	Prices Feb. 13 (Viscosity at 100° F.) 0 to 10 Pour Point	15 to 30 Pour Point	Prices Feb. 6 (Viscosity at 100° F.) 0 to 10 Pour Point	15 to 30 Pour Point
100—No. 2..	4.50	4.00	4.50	3.75 – 4.00
150—No. 3..	6.50	6.00	6.50	6.00 – 6.25
150—No. 4..	6.25	5.75	6.00 – 6.25	5.50 – 5.75
180—No. 3..	7.75	7.25	7.50 – 7.75	6.875– 7.125
180—No. 4..	7.50	7.00	7.25 – 7.50	6.625– 7.00
180—No. 5..	7.25	6.75	7.00 – 7.25	6.375– 6.625
200—No. 3..	8.25	7.50	8.25 – 8.50	7.00 – 7.25
200—No. 4..	8.00	7.25	8.00 – 8.25	6.75 – 7.00
200—No. 5..	7.75	7.00	– 7.75	6.50 – 6.75
220—No. 3..	9.25	8.75	9.00 – 9.50	8.75 – 9.00
220—No. 4..	9.00	8.50	9.00 – 9.25	8.50 – 8.75
220—No. 5..	8.75	8.25	8.75 – 9.00	8.25 – 8.50
240—No. 3..	10.25	9.50	10.00 –10.50	9.25 – 9.50
240—No. 4..	10.00	9.25	9.50 – 9.75	9.00 – 9.25
240—No. 5..	9.75	9.00	9.50	9.00
280—No. 3..	11.25	10.50	11.50 –11.75	10.50 –10.75
280—No. 4..	10.75	10.25	10.50 –11.00	10.00 –10.50
280—No. 5..	10.50	10.00	10.75	10.00 –10.25

SOUTH TEXAS (F. o. b. South Texas refineries)

Vis. Color	Prices Feb. 13 (Viscosity at 100° F., pour test 0)	Prices Feb. 6	Prices Jan. 30
200—No. 3 Pale.....	5.50 – 6.00	5.50 – 6.00	6.00
300—No. 3 Pale.....	6.00 – 6.50	6.00 – 6.50	6.50
500—No. 3½ Pale.....	7.00 – 7.50	7.00 – 7.50	7.50
750—No. 4 Pale.....	8.00	8.00	8.00
1200—No. 4 Pale.....	9.00	9.00	9.00
200—No. 5½ Red Oil...	5.00 – 5.50	5.00 – 5.50	5.50
300—No. 5½ Red Oil...	5.50 – 6.00	5.50 – 6.00	6.00
500—No. 6 Red Oil.....	6.50 – 7.00	6.50 – 7.00	7.00
750—No. 6 Red Oil.....	7.50	7.50	7.50
1200—No. 5-6 Red Oil...	8.50	8.50	8.50

Note: Red oil prices shown above cover oils with blue cast; one or two refiners ask 0.5c to 1c per gallon higher for green cast red oils.

CALIFORNIA (F. o. b. California refineries)

Vis. Color	(Viscosity at 100° F.)		
100—No. 3.....	10.50	10.50	10.50
150—No. 3.....	10.50	10.50	10.50
200—No. 3.....	11.00	11.00	11.00
300—No. 3.....	11.50	11.50	11.50
450—No. 3.....	12.25	12.25	12.25
500—No. 3.....	12.50	12.50	12.50
550—No. 3.....	12.75	12.75	12.75
600—No. 3.....	12.75	12.75	12.75
100—No. 5.....	10.00	10.00	10.00
200—No. 5.....	10.50	10.50	10.50
300—No. 5.....	11.00	11.00	11.00
400—No. 5.....	11.50	11.50	11.50
500—No. 5.....	12.00	12.00	12.00
600—No. 5.....	12.25	12.25	12.25
700—No. 7.....	12.50	12.50	12.50
800—No. 7.....	12.50	12.50	12.50

CYLINDER STOCKS

MID-CONTINENT (F. o. b. Mid-Continent refineries)
(Prices represent quotations and sales).

190-200 Vis. D at 210° Brt. St.....	15.75	16.00	17.50
150-160 Vis. D at 210° Brt. St.:			
0-10 cold test.....	13.75	14.125	15.50
10-25 cold test.....	13.25	13.625	15.00
25-40 cold test.....	12.75	13.125	14.50
150-160 Vis. E 210° Brt. St.....	12.75	13.00	14.50
600 St. Ref. Olive Green..	4.00 – 5.50	4.00 – 5.50	4.00 – 5.50
600 St. Ref. Dark Green..	3.50 – 4.50	3.50 – 4.50	3.50 – 4.50
630 Steam Refined.....	7.50	7.50	7.50
Black Oil.....	2.50 – 2.625	2.50 – 2.625	2.50 – 2.625

PENNSYLVANIA (F. o. b. Western Penn. refineries) (A.S.T.M. Tests)

600 Steam Refined, filterable.....	7.75 – 8.00	8.25 – 9.00	9.00 –10.00
650 Steam Refined.....	10.50 –11.00	11.25 –12.00	11.75 –12.25
600 Flash.....	12.00 –12.50	12.50 –13.00	13.25 –13.75
630 Flash.....	17.00 –17.50	17.50 –18.00	18.00 –19.00
600 Warren E.....	12.00 –12.50	12.50 –13.00	13.00 –14.00
Bright Stock, No. 8 color, 140-150 vis. at 210°, 540-550 flash:			
10 pour test.....	19.50 –20.00	20.00 –21.00	21.00 –22.00
15 pour test.....	17.50 –18.00	18.00 –19.00	19.50 –20.50
25 pour test.....	16.50 –17.00	16.50 –17.00	18.00 –18.50

††Only one refiner quoting. †Prices Nominal.

WAX

	Prices Feb. 13	Prices Feb. 6	Prices Jan. 30
PENNSYLVANIA (Per pound, F. o. b. New York)			
122-124 white crude scale a.m.p.....	1.95 – 2.00	1.95 – 2.00	1.90 – 2.00
124-126 white crude scale a.m.p.....	2.00 – 2.125	2.00 – 2.125	1.95 – 2.125
****OKLAHOMA** (Per pound in barrels; in a few instances, per pound in burlap bags; F. o. b. Oklahoma refineries.)			
124-126 White Crude Scale, a.m.p.....	1.70 – 1.875	1.70 – 1.875	1.75 – 1.875

GAS AND FUEL OIL

PENNSYLVANIA (For outside Pittsburgh district)			
36-40 fuel oil.....	†3.375– 3.75	†3.375– 3.75	†3.375– 3.625
OKLAHOMA (F. o. b. Oklahoma refineries)			
38-40 straw Furnace Oil..	2.50 – 2.625	2.50 – 2.625	2.625– 2.75
32-36 straw gas oil.....	1.50 – 1.625	1.625	1.75
32-36 straw gas oil zero..	2.50 – 2.75	2.50 – 2.625	.....
32-36 dark gas oil.....	1.50 – 1.625	1.375– 1.50	1.625
32-36 dark gas oil zero...	2.375– 2.625	2.375	2.50 – 2.75
28-30 fuel oil,zero(perbbl.)	$0.825–$0.90	$0.80 –$0.875	$0.90 –$0.975
28-30 fuel oil (per bbl.)...	$0.65 –$0.725	$0.65 –$0.725	$0.725–$0.80
24-26 fuel oil (per bbl.)...	$0.425–$0.475	$0.425–$0.475	$0.425–$0.475
22-26 fuel oil (per bbl.)...	$0.40 –$0.45	$0.40 –$0.45	$0.40 –$0.45
18-22 fuel oil (per bbl.)...	†$0.40 –$0.475	†$0.40 –$0.45	†$0.40 –$0.45
16-20 fuel oil (per bbl.)...	$0.40 –$0.425	$0.40 –$0.425	$0.40 –$0.425
14-16 fuel oil (per bbl.)...	†$0.375–$0.40	†$0.375–$0.40	†$0 375–$0.425
KANSAS (F. o. b. refinery Kansas destination)			
38-40 straw Furnace Oil..	2.50 – 2.625	2.50 – 2.625	2.75 – 2.875
18-22 fuel oil (per bbl.)...	$0.50 –$0.525	$0.45 –$0.50	$0.55 –$0.575
10-14 fuel oil (per bbl.)...	$0.425–$0.475	$0.375–$0.425	$0.45 –$0.50
NORTH TEXAS (F. o. b. Wichita Falls district refineries for unrestricted shipment)			
38-40 straw Furnace Oil..	2.50 – 2.625	2.625– 2.75	2.75 – 2.875
38-40 prime white Furnace Oil.....	2.625– 2.75	2.75	2.875– 3.00
32-36 gas oil, zero.....	2.50	2.50 – 2.625	2.625– 2.75
32-36 gas oil.....	1.25 – 1.375	1.375– 1.50	1.50
24-26 fuel oil (per bbl.)...	$0.50	$0.50	$0.50
18-22 fuel oil (per bbl.)...	$0.45	$0.45	$0.45
WEST TEXAS (F. o. b. West Texas refineries for unrestricted shipment)			
30-32 gas oil.....	2.50 – 2.625	2.50	2.625– 2.75
18-22 fuel oil (per bbl.)...	$0.50	$0.50	$0.50
NORTH LOUISIANA (For Louisiana and Arkansas destination)			
32-36 gas oil.....	2.75	2.875– 3.00	3.00
32-36 gas oil, zero.....	3.00	3.00 – 3.25	3.25
14-16 fuel oil (per bbl.)...	$0.35 –$0.40	$0.35 –$0.40	$0.375–$0.425
ARKANSAS (For Arkansas and Louisiana destination)			
32-36 gas oil.....	2.75	2.75	3.00
32-36 gas oil, zero.....	3.00	3.00	3.25
28-30 gas oil, zero.....	2.75	2.75	3.00
20-24 fuel oil (per bbl.)...	$0.475–$0.50	$0.475–$0.50	$0.50 –$0.525
9-12 fuel oil (per bbl.)...	$0.35 –$0.375	$0.35 –$0.375	$0.375–$0.425
CALIFORNIA (F. o. b. refinery)			
14-18 fuel oil (per bbl.)...	$0.38 –$0.45	$0.35 –$0.45	$0.40 –$0.45
14-18 Bunker oil (per bbl.)	$0.50 –$0.65	$0.50 –$0.60	$0.50 –$0.65
30-34 gas oil (per bbl.)...	$0.95 –$1.05	$0.90 –$1.00	$0.90 –$1.00
27 Plus Diesel oil (per bbl.)	$0.95 –$1.05	$0.90 –$1.00	$0.90 –$1.00

PETROLATUMS

PENNSYLVANIA (Per pound, in barrels, carload lots, f. o. b. Penna. refinery. In tank cars ⅛c to ¼c per pound less.) Quotations are from majority of refiners.

Snow White.....	6.25 – 6.50	6.25 – 6.50	6.25 – 6.50
Lily White.....	5.00 – 5.50	5.00 – 5.50	5.00 – 5.50
Cream White.....	4.125– 4.50	4.125– 4.50	4.125– 4.50
Light Amber.....	2.25 – 2.50	2.25 – 2.50	2.25 – 2.50
Amber.....	2.00 – 2.25	2.00 – 2.25	2.00 – 2.25
Red.....	1.875– 2.00	1.875– 2.00	1.875– 2.00

*Quotations only. **Prices represent quotations and sales.

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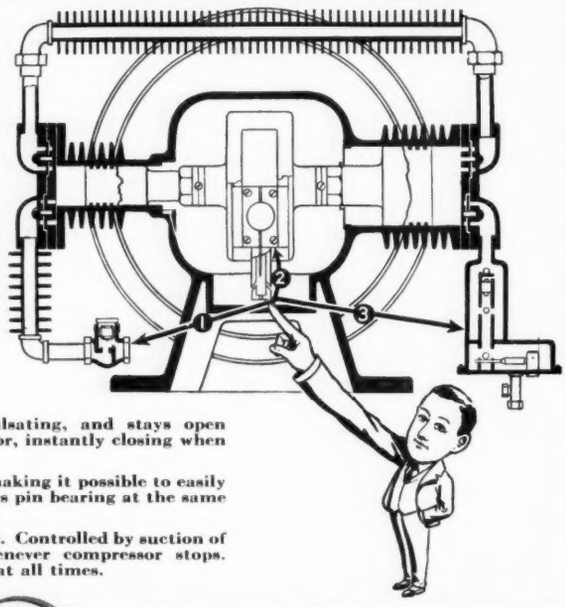

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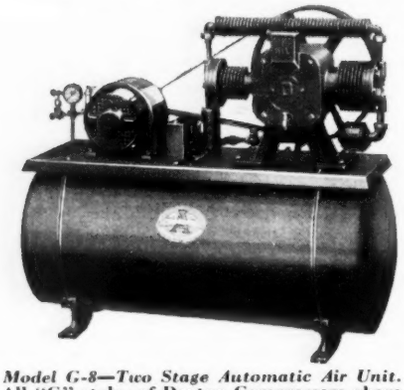

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California Market

Domestic And Export Trading Light

LOS ANGELES, Feb. 9.—Pacific coast petroleum markets showed little or no activity in any division the past week and prices were practically unchanged.

Although exporters supplying accounts in the Pacific foreign area reported some inquiry and spot sale on cased kerosine in 2000 to 5000-case lots, lower quotations by Gulf suppliers proved difficult obstacles to new business on gasoline.

Fuel oil markets on the west coast were expected to be helped as a result of some 1,500,000 barrels of the commodity needed by the United States Navy for its spring maneuvers in Pacific waters. This need will be in addition to the fleet's regular requirements.

Current quotations for a bunker "C" fuel oil ranged upward of $0.50 to $0.55 a barrel. Independent refiners have been hard pressed to dispose of their fuel and several recent sales were reported at $0.38 to $0.40, with quotations ranging upward of $0.45 on spot lots.

Continued cold weather that called for smudging of southern California citrus groves was a boon to suppliers of gas and diesel oil. Stocks of these commodities were low and new business was reported going at $0.95 per barrel and up.

Kerosine-distillate also was reported in good demand. Recent movement of this commodity into Arizona for heating purposes brought 2.5 to 2.75 cents a gallon. This was for a No. 2 product.

In the domestic gasoline market, independent refiners made another partially successful attempt to boost the level of spot quotations for movement within the state. Several sales were made early in the week at prices of 8.25 to 8.5 cents a gallon, including all tax, but prices were raised to range from 8.75 to 9 cents as the week ended and leaders among the independent factions hoped to achieve a level of 9.5 cents over the week-end.

This shading of wholesale prices by the independents—which had been forced by actions of certain major refiners—resulted in retail quotations in the Los Angeles area of 9.5 to 10.9 cents on most independent products. Third-grade brands were quoted at 12.9 cents at most major stations in this territory, although the 10.9-cent competition was met in many instances.

Local suppliers reported a dearth of spot gasoline sales to out-of-state points. One trader reported the receipt of quotations of 2 cents on a less than 425 e.p., and of 2.125 cents

on a 400 e.p. product, from a Texas refinery. By dealing direct, accounts in Arizona, Idaho, Montana, and even parts of Washington, were able to improve upon quotations from the Los Angeles Basin.

Pennsylvania Markets

Gasoline Down 0.5 Cent; Lubes More Active

CLEVELAND, Feb. 14.—The general market situation in western Pennsylvania showed little change in the week ended Feb. 11. Gasoline was 0.5 cent lower but other oils for the most part were steady. Some grades of lubricating oil were in better demand and burning oils were more active. Buyers, however, showed little interest in other products.

Refiners generally reduced their gasoline quotations 0.5 cent following the retail price cut made by Atlantic Refining Co. Feb. 8. Contract shipments of motor fuel oil in fair volume, they reported, but open market demand was negligible even in the face of lower spot prices. With U. S. Motor gasoline at 4.5 cents it was reminiscent of the market of a year ago this time when kerosine was higher than gasoline in Pennsylvania.

Kerosine last week moved up 0.125 cent a gallon to 4.5 cents for 45 water white; some shading of this price was reported but the volume sold or offered was small in comparison to the volume on which higher prices obtained.

Cylinder stocks were quoted 0.25 to 0.5 cent a gallon lower but bright stocks and neutral oils steadied somewhat following the lower prices established the previous week.

Generally speaking, lubricating oil demand was only fair. When buyers bought, however, they wanted their shipments started rolling promptly, indicating that inventories at points of distribution were low. There appeared to be little buyer resistance to current quotations for bright stock and neutral.

The 200 at 70 No. 3 color neutral oil turned exceptionally active about the middle of the week. Buyers apparently were preparing for the change in specifications of emblem motor oils which becomes effective March 1.

With the chain store situation in mind, several refiners were optimistic over the outlook for lubricating oils. Chain stores and department stores handling motor oil have been working off inventories and doing but little additional buying so far this year, they said, and new buying from this class of buyers was expected to break in the near future. One refiner estimated the annual distribution of the chain stores totaled 40,000,000 gallons.

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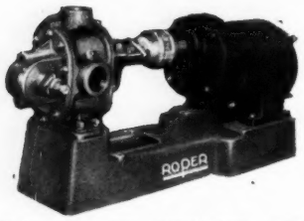

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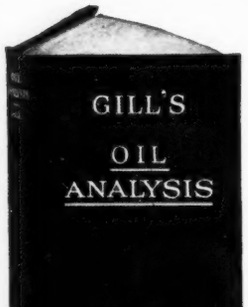

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Eastern Domestic Markets

New England Gasoline Lower

Staff Special
NEW YORK, Feb. 11.

GASOLINE markets generally were marking time along the Atlantic seaboard during the week ended Feb. 11. Tank car markets in New England were adjusted downward 0.025 cent in sympathy with lower retail prices and lower priced shipments by water out of New York. On Feb. 8, the Standard Oil Co. of New York reduced tank wagon prices 0.5 cent and service station 1.5 cents both to 10 cents, exclusive of taxes, in metropolitan Boston and vicinity. On Feb. 10, this company made similar reductions at scattered points throughout New England.

Little change was noted in the gasoline situation at New York harbor, Philadelphia and Baltimore. Tank car prices were generally 4.75 cents and 5 cents for the low and high octane grades, respectively.

The reduction in retail prices by the Atlantic Refining Co. on Feb. 8 tended to make the spot tank car market less attractive to jobbers in that territory. The company reduced both tank wagon and service station prices 1 cent in eastern Pennsylvania and Delaware and 1.5 cents in western Pennsylvania. The new prices brought into effect a statewide schedule of 9.5 cents tankwagon and 10.5 cents service station—but did not affect Philadelphia, where these prices already were in effect. Statewide kerosine tank wagon price was reduced 1 cent to 9 cents per gallon.

The wholesale market for kerosine was unsteady along the seaboard despite the colder weather. Several cargoes were in distress as the result of storage continuing full due to the record high temperatures prevailing the past few weeks. Tank car prices were 0.25 cent lower at New York with concessions to barge buyers tending to widen.

Light burning oils were in good demand. The market for these oils as well as bunker and diesel oils remained generally unchanged.

Sales of cargo lots of gasoline at the Gulf were fairly numerous during the week both to foreign and domestic buyers. Two cargoes of 64-66, 375 end point gasoline were bought by French buyers for late February and early March shipment. The price on one cargo was 3.625 cents and the other 3.75 cents. The quantities were approximately 60,000 barrels each. Late the preceding week a cargo of the same grade was sold to Australian buyers at 3.75 cents. A domestic purchase of a cargo of above 65 octane gasoline was reported at 3.625 cents.

Kerosine continued to be freely offered at 4 cents with indications that that price could be shaded. Cargo lots of bunker oil, Grade C, were in demand with the price situation generally unchanged.

The market for cased goods has again become active. Satisfactory inquiry for both gasoline and kerosine was reported coming from the West Indies and Africa. Orders consisting of 500 to 3000 cases were frequently heard. Prices were generally unchanged.

Wax Markets

Stocks Drop; Prices Steady

NEW YORK, Feb. 11.—The sharp decline in wax stocks in December caused considerable comment among wax traders following the report issued by the Bureau of Mines Feb. 8. Wax stocks were 15,849,000 pounds lower in December than in November. Several reasons for this decline were advanced by those closely in touch with this market.

Many wax plants have been shut down due to unattractive prices for the products. This is particularly true of plants in the Mid-Continent. And then too, crude runs to stills have been curbed throughout the industry.

From the domestic buyers of waxes comes word that large quantities were taken out in December under contracts in contemplation of an advance in domestic prices after the first of the year. Exporters also reported that shipments increased the Continental buyers although no advances in prices were contemplated. In fact, export prices have gone down since the first of the year but this was generally attributed to the decline in money values in foreign exchanges. Poland, Roumania, and Russia being large producers of wax represent the leading competitors of the American refiners.

The American wax trade was optimistic about the improvement in the stocks position. Reports generally were to the effect that bargain prices were not to be found for immediate shipment. Domestic prices were steady and exporters stated that material was scarcer for shipment to unfavorable foreign markets. The cartel prices abroad were generally the governing level of foreign trade.

On The Lazy Bench

Home, Sweet Home

The hostess was pressing her guests to provide entertainment.

"Is there any instrument you can play, Mr. Jenkins?" she asked.

"Not away from home," he replied.

"What do you play at home?" she inquired.

"Second fiddle," Jenkins murmured solemnly.

—The Pure Oil News,
The Pure Oil Co.

* * *

Nurse—"Jackie, the stork has just brought you a baby sister. Wanta see her?"

Jackie—"Naw! I wanta see the stork!"

—The Sohioan,
The Standard Oil Co. of Ohio.

* * *

Har! Har!

"Very few men escape baldness."

"Yes—hair today and gone tomorrow."

—The Pure Oil News,
The Pure Oil Co.

* * *

Times Have Changed

Sweet Thing (disgusted)—"My boy friend has cold feet."

Maid—"Shame on you, young lady. In my day we didn't find out those things until after we were married."

—The Sohioan,
The Standard Oil Co. of Ohio.

* * *

A parking space is where you leave your car to have those little dents made in the fenders.

—The National Dixie Booster,
The Dixie Distributors.

* * *

Five-year-old Daughter—"Look at that funny man across the street."

Mother—"What is he doing?"

Daughter—"He's sitting on the pavement talking to a banana skin."

—The Sohioan,
The Standard Oil Co. of Ohio.

* * *

Home, James

He: "I would like to have some good old fashioned loving."

She: "O. K. Come out to the house and I'll introduce you to grandma."

—The Pure Oil News,
The Pure Oil Co.

* * *

Prof.—"Now, gentlemen, this is the last lecture of the course. The examination papers are already made out and have been sent to the printer. Is there any questions any of you would like to ask?"

Faint Voice—"Yes. What's the address of that printer?"

—The Sohioan,
The Standard Oil Co. of Ohio.

ASK ABOUT OUR EXCLUSIVE FRANCHISE AGREEMENT

You'll find it especially attractive!

AMONG the 700-odd oil jobbers who are marketing Freedom 100% Pennsylvania Motor Oils are many who are enjoying our especially attractive Franchise Agreement covering exclusive territory on our "Fort Pitt" and "Beaver Penn" brands. Others are marketing Freedom Motor Oils under their own brand name and are finding this both a source of customer satisfaction and handsome profit.

We would like to have you ask us about this exclusive Franchise Agreement, also for quotations. Our jobber-customers are now reporting particularly fine results from Freedom *Low Cold Test Oils*. Made from the finest 100% Pennsylvania Crudes, refined and dewaxed by special Freedom processes which include pressing at temperatures below zero, they possess all of the extra lubricating characteristics for which Freedom has become famous and in addition provide appreciably easier starting in coldest weather.

In addition to Freedom *Low Cold Test Oils* we also can supply other motor oils made (Sharples Process) to your specifications or tested specifications of this 53-year-old organization. Quick shipments in tank cars, compartment tank cars or carloads of barrels or drums. Your request for full information and quotations will receive immediate attention.

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MEMBER OF PENNSYLVANIA GRADE Guaranteed 100% PURE PENNSYLVANIA OIL CRUDE OIL ASSOCIATION PERMIT No. 31 Made from the highest grade crude oil in the world

THE FREEDOM OIL WORKS CO.
120 Third St., Freedom, Pa.

Oil jobbers are urged to ask us for quotations on "Tri-State" Motor Oil, a packaged oil made from 100% Pennsylvania Crude and sold in 2-gallon and 5-gallon cans at a price which will enable dealers to win back those oil sales temporarily lost to the chain and department stores.

Complete Seaboard Markets

Prices on this page do not include federal tax levied on some products

Eastern Domestic Markets

(Prices for tank car lots, f. o. b. refinery or seaboard terminal, representing majority of sales and quotations to jobbers and/or consumers. Prices shown below do not include inspection tax levied in Florida and South Carolina.)

	Prices Feb. 13	Prices Feb. 6	Prices Jan. 30
U. S. MOTOR GASOLINE:			
Below 65 Octane Number			
New York harbor	4.75 – 5.00	4.75 – 5.00	5.00
Portland district	5.75	6.00	6.00
Boston district	5.00 – 5.25	5.25 – 5.50	5.50
Providence district	5.00 – 5.25	5.25 – 5.50	5.50
Philadelphia district	4.75 – 5.00	4.75 – 5.00	5.00
Baltimore district	4.75 – 5.00	4.75 – 5.00	5.00
Norfolk district	5.50	5.50	5.50
Charleston district	5.50	5.50	5.50
Savannah district	5.50	5.50	5.50
Jacksonville district	5.50	5.50	5.50
MOTOR GASOLINE:			
65 Octane Number and Above			
New York harbor	5.00 – 5.25	5.00 – 5.25	5.25
Portland district	6.00	6.25	6.25
Boston district	5.25 – 5.50	5.50 – 5.75	5.75
Providence district	5.25 – 5.50	5.50 – 5.75	5.75
Philadelphia district	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25
Baltimore district	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25
Norfolk district	5.75	5.75	5.75
Charleston district	5.75	5.75	5.75
Savannah district	5.75	5.75	5.75
Jacksonville district	5.75	5.75	5.75
AVIATION GASOLINE			
Below 73 Octane Number			
New York harbor	8.50 – 9.50	8.50 – 9.50	8.50 – 9.50
Philadelphia	8.50 – 9.50	8.50 – 9.50	8.50 – 9.50
Baltimore	8.50 – 9.50	8.50 – 9.50	8.50 – 9.50
Boston	8.50 – 9.50	8.50 – 9.50	8.50 – 9.50
73 Octane Number and Above (Octane determination basis 300° F; 600 R.P.M.)			
New York harbor	11.00 –12.00	11.00 –12.00	11.00 –12.00
Philadelphia	11.00 –12.00	11.00 –12.00	11.00 –12.00
Baltimore	11.00 –12.00	11.00 –12.00	11.00 –12.00
Boston	11.00 –12.00	11.00 –12.00	11.00 –12.00
WATER WHITE KEROSINE			
New York harbor	5.25 – 5.50	5.50	5.50
Philadelphia district	5.50	5.50	5.50
Baltimore district	5.50	5.75	5.75
Boston district	5.25 – 5.50	5.25 – 5.50	5.50
BURNING OILS:			
New York harbor:			
Furnace oil No. 1	5.00	5.00	5.00
Heating oil No. 2	4.00	4.00	4.00
Distillate oil No. 3	4.00	4.00	4.00
Industrial oil No. 4	3.50	3.50	3.50
Philadelphia District:			
Furnace oil No. 1	5.00	5.00	5.00
Heating oil No. 2	4.00	4.00	4.00
Distillate oil No. 3	3.50	3.50	3.50
Boston district:			
Furnace oil No. 1	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
Heating oil No. 2	4.00	4.00	4.00
Distillate oil No. 3	3.75	3.75	3.75
Industrial oil No. 4	3.50	3.50	3.50
GRADE C BUNKER OIL (Lighterage 5c per barrel additional)			
New York harbor	$0.75	$0.75	$0.75
Philadelphia district	$0.75	$0.75	$0.75
Boston district	$0.75	$0.75	$0.75
DIESEL OIL—AT NEW YORK HARBOR			
Ships' bunkers, per barrel	$1.65	$1.65	$1.65
Shore Plants, per gallon	4.00	4.00	4.00
GAS OIL—28-34 Gravity			
New York harbor	4.00	4.00	4.00
Philadelphia district	4.00	4.00	4.00

New York Export Markets

(Lubricating oils in cents per gal. in bbls. F. a. s. New York. Paraffin oil prices represent bulk shipment in tankers f. a. s. New York.)

CYLINDER OILS (Pennsylvania Products)			
Bright stock, No. 8 color	23.00 –24.00	23.00 –24.00	23.00 –24.00
Bright stock, No. 6½ color diluted	22.00 –23.00	22.00 –23.00	22.00 –23.00
600 D filtered	25.00 –27.00	25.00 –27.00	25.00 –27.00
600 Warren E filtered	18.00 –19.00	18.00 –19.00	18.00 –19.00
600 stm. refd, unfiltered	14.00 –15.00	14.00 –15.00	14.00 –15.00
650 stm. refd. unfiltered	16.00 –17.00	16.00 –17.00	16.50 –17.50
600 flash steam refined	17.00 –18.00	17.00 –18.00	17.00 –18.00
630 flash, steam refined	22.00 –23.00	22.00 –23.00	22.00 –23.00
RED PARAFFIN OILS (Vis. 100°)			
300 vis. No. 6½ color	9.50	9.50	9.50
250 vis. No. 6 color	9.00	9.00	9.00
200 vis. No. 6 color	8.25	8.25	8.25
PALE PARAFFIN OILS (Vis. 100°)			
230 vis. No. 3¾ color	10.00	10.00	10.00
180 vis. No. 3¼ color	9.50	9.50	9.50
100 vis. No. 2¼ color	5.00	5.00	5.00

Wax Market

(Prices in cents per pound. Tests made by A. S. T. M. method with melting points converted into A. M. P. by adding 3° F. Export prices are f.a.s. carload lots. Domestic prices are f.o.b. refineries in New York and New Orleans harbor district, in bags, carload lots, with 0.2c discount allowed for shipment in bulk).

NEW YORK	Prices Feb. 13 Domestic	Export	
124-126 Yellow scale	1.875– 2.00	1.75 – 1.875	.....
122-124 White scale	2.00 – 2.125	1.80 – 2.00	.....
124-126 White scale	2.00 – 2.125	1.85 – 2.00	.....
123-125 Fully refined	3.00 – 3.10	2.75 – 3.00	.....
125-127 Fully refined	3.10 – 3.20	2.875– 3.00	.....
128-130 Fully refined	3.35 – 3.45	3.00 – 3.125	.....
130-132 Fully refined	3.55 – 3.65	3.125– 3.25	.....
133-135 Fully refined	4.10 – 4.20	4.00 – 4.125	.....
135-137 Fully refined	4.35 – 4.45	4.125– 4.25	.....

NEW ORLEANS	Prices Feb. 13 Domestic	Export	
124-126 Yellow scale	1.875– 2.00	1.75 – 1.875	.....
122-124 White scale	2.00 – 2.125	1.80 – 2.00	.....
124-126 White scale	2.00 – 2.125	1.85 – 2.00	.....
123-125 Fully refined	3.00 – 3.10	2.75 – 3.00	.....
125-127 Fully refined	3.10 – 3.20	2.75 – 3.00	.....
128-130 Fully refined	3.35 – 3.45	3.00 – 3.125	.....
130-132 Fully refined	3.55 – 3.65	3.125– 3.25	.....
133-135 Fully refined	4.10 – 4.20	4.00 – 4.125	.....

Gulf Coast Bulk Market

(Prices are f. o. b. Gulf oil terminals representing sellers' opinions except prices specified to the contrary. Prices cover bulk shipments of 20,000 barrels or more, unless otherwise noted.)

	Prices Feb. 13	Prices Feb. 6	Prices Jan. 30
For Domestic Shipment			
U. S. MOTOR GASOLINE:			
Below 65 octane number	3.00 – 3.50	3.00 – 3.50	3.50 – 3.75
65 octane number and above	3.625– 4.00	3.75 – 4.00	4.00 – 4.25
KEROSINE			
41-43 w.w. *Nominal	4.00	4.00 – 4.50	4.00 – 4.50
For Export Shipment			
GASOLINE			
U. S. Motor gasoline	3.25 – 3.50	3.50 – 3.75	3.50 – 3.75
60-62, 400 e.p. gasoline	3.50 – 3.625	3.625– 3.75	3.625– 3.75
61-63, 390 e.p. gasoline	3.625– 3.875	3.875– 4.00	3.875– 4.00
64-66, 375 e.p. gasoline	3.75 – 4.00	4.00 – 4.125	4.00 – 4.125
U. S. Motor, cases (cargoes)	$1.50	$1.50	$1.50
64-66 cases (cargoes)	$1.60	$1.60	$1.60
KEROSINE			
41-43 water white	4.00 – 4.125	4.25 – 4.50	4.25 – 4.50
41-43 prime white	3.875– 4.00	4.00 – 4.25	4.00 – 4.25
Water white, cases (cargoes)	$1.40	$1.40	$1.40
Prime white, cases (cargoes) *Nominal	$1.30	$1.30	$1.30
(For Domestic and/or Export Shipment)			
GAS and BUNKER OILS			
*26-30 translucent gas oil	3.00 – 3.25	3.00 – 3.25	3.00 – 3.25
*30 plus translucent gas oil	3.25 – 3.50	3.25 – 3.50	3.25 – 3.50
Diesel Oil ships' bunkers	$1.50	$1.50	$1.50
Grade C bunker oil, for ships' bunkers, per bbl.	$0.60	$0.60	$0.60
Grade C bunker oil, per bbl. in cargoes *Less than ½ of 1% sulphur.	$0.40	$0.40	$0.40
MEXICAN CRUDE AND BUNKER OILS (f.o.b. Steamer, Tampico)			
Heavy Panuco crude taxes to be paid, per bbl.	$0.45 –$0.47	$0.45 –$0.47	$0.45 –$0.47
Grade C bunker oil for bunkering, taxes paid, per bbl.	$0.60	$0.60	$0.60
SOUTH TEXAS LUBRICATING OILS (Viscosity at 100° F. cold test 0 Tanker, f. o. b. Gulf oil terminals.)			
200 vis. No. 3 unfiltered pale	4.75 – 5.00	4.75 – 5.00	5.25 – 5.75
300 vis. No. 3 unfiltered pale	5.375– 6.00	5.375– 6.00	6.00 – 6.50
500 vis. No. 3½ unfiltered pale	6.25 – 7.00	6.25 – 7.00	6.75 – 7.25
750 vis. No. 4 unfiltered pale	7.25 – 7.75	7.25 – 7.75	7.25 – 7.75
1200 vis. No. 4 unfiltered pale	8.50 – 9.00	8.50 – 9.00	8.50 – 9.00
200 vis. No. 5-6 red oil	4.50 – 5.00	4.50 – 5.00	4.25 – 4.75
300 vis. No. 5-6 red oil	5.00 – 5.50	5.00 – 5.50	5.00 – 5.50
500 vis. No. 5-6 red oil	5.75 – 6.00	5.75 – 6.00	5.75 – 6.25
750 vis. No. 5–6 red oil	6.75 – 7.125	6.75 – 7.125	6.75 – 7.25
1200 vis. No. 5–6 red oil	7.75 – 8.25	7.75 – 8.25	7.75 – 8.25

Note: Red oil prices shown above cover oils with blue cast; one or two refiners ask 0.5c to 1c per gal. higher for green cast red oils.

Pacific Export Market

(Quotations are at seaboard, Los Angeles, in cargo lots, cents per gallon, except where noted.)

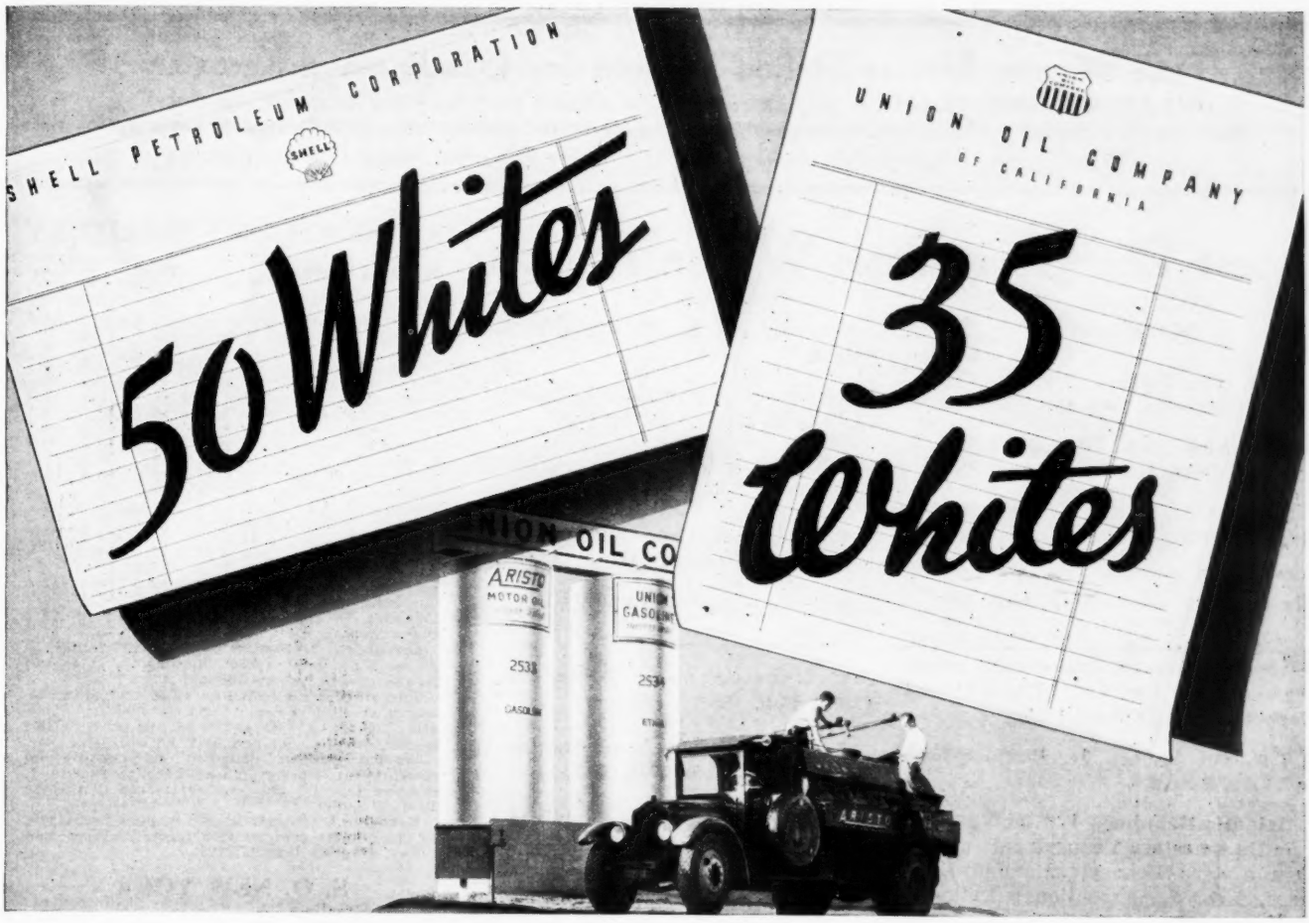
Gasoline, U. S. Motor, 53-55 Gravity	4.00 – 4.25	4.00 – 4.25	4.00 – 4.25
Gasoline, 400 e.p. blend 65 Octane No. and above	4.50 – 5.25	4.50 – 5.25	4.50 – 5.25
Gas oil, 30-34 per bbl.	$0.90 –$1.00	$0.90 –$1.00	$0.90 –$1.00
Diesel oil, 27 plus, per bbl.	$0.90 –$1.00	$0.90 –$1.00	$0.90 –$1.00
Bunker oil, 14-18 per bbl.	$0.60 –$0.75	$0.60 –$0.75	$0.60 –$0.75
Fuel oil, 14-18 per bbl.	$0.55 –$0.65	$0.55 –$0.65	$0.55 –$0.65
Kerosine, 38-40 w.w., 150 fire, per gal.	3.75 – 4.50	3.75 – 4.50	3.75 – 4.50
Cased Goods			
Gasoline, U. S. Motor	$1.45 –$1.60	$1.45 –$1.60	$1.45 –$1.60
Gasoline, 400 e.p. blend	$1.55 –$1.70	$1.55 –$1.70	$1.55 –$1.70
Kerosine, 38-40 w.w., 150 fire	$1.25 –$1.35	$1.25 –$1.35	$1.25 –$1.35
Kerosine, prime white	$1.05 –$1.20	$1.05 –$1.20	$1.05 –$1.20

Tanker Rates

(Approximate tanker freight rates to Continental ports, in shillings per ton of 2240 pounds, British sterling; to U. S. ports, cents per barrel)

	Feb. 13 Crude &/or Fuel Last Paid	Crude &/or Fuel Owners Ask	Refined Oil &/or Spirits Last Paid	Refined Oil &/or Spirits Owners Ask
Calif.-U.K./Continent*	12/6	15/-20/	14/	15/-17/
Gulf-U.K./Continent*	7/9	8-8/6/	9/	9/-10/
Calif.-N. Atlantic (not E. of N. Y.)	42c	40-45c	41c	40-45c
Gulf-N. Atlantic** (not E. of N. Y.)	14.5c	14-16c	15c	15-18c

*Continental ports in range between Bordeaux and Hamburg, both inclusive.
**Venezuela loading same rate; Tampico 2 to 3c per bbl. additional.



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Tank Wagon, Service Station Markets for Gasoline and Kerosine

(OIL PRICE HANDBOOK has t.w. and s.s. markets for a whole year, arranged for quick reference)

Tax column includes 1c federal tax, state gasoline tax, and city and county taxes as indicated in footnotes

These Prices in Effect Feb. 13, 1933, as Posted by Principal Marketing Companies

Latest Changes in Tank Wagon Markets

Motor Gasoline

S. O. New Jersey—T.w. cut 1c, s.s. cut 2c, Charlotte, both to 17.3c, **Feb. 6.**

S. O. New York—T.w. cut 0.5c, s.s. cut 1.5c, Boston, both to 14c, **Feb. 8.**

T.w. cut 1c, s.s. cut 2c, New Haven, both to 12.5c, **Feb. 4.**

T.w. and s.s. cut 0.5c, Augusta, to 17c and 18c respectively, **Feb. 10.**

T.w. and s.s. cut 1c, Manchester and Rochester, **Feb. 10.** Manchester prices became 16.5c t.w. and 17.5c s.s., and Rochester, 14.5c and 15.5c.

T.w. cut 1c, s.s. 2c, Buffalo, both to 12.5c, **Feb. 11.**

Atlantic Refining—T.w. and s.s. cut 1.5c thru western Pennsylvania and 1c thru eastern Pennsylvania and Delaware, **Feb. 8.** Exceptions: Philadelphia unchanged; Pittsburgh and Erie cut 2c. Other points: Allentown, Scranton, Dover and Wilmington cut 1c; Altoona cut 1.5c.

T.w. cut 1c, s.s. cut 2c, Springfield, both 14.5c, **Feb. 1.**

T.w. and s.s. cut 1c, Worcester, to 14.5c and 15.5c, **Feb. 4.**

T.w. and s.s. cut 0.5c, Fall River, to 13.5c and 14.5c, **Jan. 30.**

T.w. cut 1c, s.s. cut 2c, Hartford and New Haven, both to 12.5c, **Feb. 4.**

T.w. cut 2c, s.s. cut 1c, Hagerstown, to 13c and 14c, **Feb. 4.**

T.w. and s.s. cut 1c, Wilmington, to 16.2c and 17.2c, **Jan. 7.**

T.w. and s.s. up 2c, Jacksonville, to 20c and 21c, **Jan. 28.**

S. O. Kentucky—Crown gasoline t.w. and s.s. up 2c, Montgomery, both to 21c, **Feb. 6.**

Kyso Green: T.w. and s.s. up 2c, Montgomery, both to 18c, **Feb. 6.**

S. O. Indiana—Standard Red Crown: S.s. only up 1c, St. Joseph, to 10.9c, **Feb. 2.**

Standolind: S.s. only cut 0.9c, Springfield, to 12c, **Feb. 9.**

S.s. only cut 1c, St. Louis, to 9.5c, **Feb. 8.**

S.s. only cut 0.5c, Grand Rapids, to 13.5c, **Jan. 21.**

S.s. only cut 0.3c, Mankato, to 13c, **Jan. 29.**

T.w. only cut 1.6c, Mason City, to 12.6c, **Jan. 30;** cut 1c to 11.6c, **Feb. 4.**

T.w. only cut 1c, Wichita, to 10c, **Jan. 30.**

T.w. and s.s. up 2c, Green Bay, to 15.3c, **Feb. 9.**

S. O. Louisiana—Acto gasoline cut 1c, Bristol, to 15c, **Feb. 7.**

Magnolia Petroleum—Mobilgas t.w. and s.s. cut 2c, Muskogee, to 11.5c and 14c, **Jan. 30.**

T.w. and s.s. cut 1c, Tulsa, to 12.5c and 15c, **Jan. 25.**

T.w. and s.s. cut 3c, El Paso, to 12.5c and 15c, **Jan. 25.**

Metro: T.w. and s.s. cut 2c, Muskogee, to 10c and 11c, **Jan. 30.**

T.w. and s.s. cut 1c, Tulsa, to 11c and 12c, **Jan. 25.**

T.w. and s.s. cut 0.5c, Fort Smith, both to 12c, **Jan. 27.**

T.w. and s.s. cut 3c, El Paso, both to 11c, **Jan. 25.**

T.w. and s.s. cut 1c, Fort Worth, to 10c, and 11c, **Jan. 31.**

S. O. Louisiana—Acto s.s. cut 1c, Bristol, to 15c, **Feb. 7.**

Kerosine

Atlantic Refining—T.w. cut 1c, thru Pennsylvania and Delaware, to 9c, except Wilmington unchanged, **Feb. 8.**

S. O. Indiana—Cut 1.8c, Huron, to 10c t.w., **Feb. 6.** Cut 1c, Detroit, to 8c t.w., **Feb. 8.**

S. O. Kentucky—Up 2c, Montgomery, to 16c t.w., **Feb. 6.**

S. O. Louisiana—Cut 1c, Baton Rouge, to 10c t.w., **Feb. 3.**

S.O. NEW JERSEY TERRITORY

Standard Gasoline	Total T.W.	Tax	Total T.W.	S.S.	Kerosine T.W.
Atlantic City, N. J.	10	4	14	15	11.2
Newark, N. J.	9.3	4	13.3	14.3	8.5
Annapolis, Md.	9.6	5	14.6	15.6	9
Baltimore, Md.	9	5	14	15	8
Cumberland, Md.	10.5	5	15.5	16.5	11.7
Washington, D. C.	9.2	3	12.2	13.2	10
Danville, Va.	10.7	6	16.7	17.7	11.9
Norfolk, Va.	9.1	6	15.1	16.1	10.3
Petersburg, Va.	10.2	6	16.2	17.2	11.4
Richmond, Va.	9.5	6	15.5	16.5	10.7
Roanoke, Va.	10.7	6	16.7	17.7	11.9
Charleston, W. Va.	10.4	5	15.4	16.4	11.6
Parkersburg, W. Va.	9	5	14	15	10.2
Wheeling, W. Va.	10	5	15	16	11.2
Charlotte, N. C.	10.3	7	17.3	17.3	12.5
Hickory, N. C.	11.5	7	18.5	19.5	12.7
Mt Airy, N. C.	11.6	7	18.6	19.6	12.8
Raleigh, N. C.	11.1	7	18.1	19.1	12.3
Salisbury, N. C.	11.4	7	18.4	19.4	12.6
Charleston, S. C.	9.1	7	16.1	17.1	10.3
Columbia, S. C.	11	7	18	19	12.2
Spartanburg, S. C.	8.5	7	15.5	16.5	12.5

Discounts: To dealers on Standard gasoline, 2c off retail t.w. price, except Washington, D. C. and Baltimore, Md., where discount is 3c.

To commercial consumers: on t.w. deliveries, over a year off posted retail t.w.: 1,000 to 20,000 gals., 2c per gal.; 20,001 to 100,000 gals., 2.5c; 100,001 to 300,000 gals., 3c; and over 300,000 gals., 3.5c.

Service station discount to commercial consumers: 2c per gal. off s.s. price, thru territory, effective Jan. 19, 1933; subject to cancellation on 10 days' notice.

Kerosine Discount: 1c off t.w. price for 25 gals. or more, under contract thru territory except New Jersey, effective June 17, 1931.

S. O. NEW YORK

Socony Gasoline					
Greater New York City:					
Boroughs of Manhattan, Bronx, Queens & Kings	9.5	4	13.5	13.5	9.5
Borough of Richmond	9.5	4	13.5	13.5	9.5
Albany, N. Y.	11	4	15	16	9
Buffalo, N. Y.	8.5	4	12.5	12.5	9
Rochester, N. Y.	10.5	4	14.5	15.5	9
Syracuse, N. Y.	11	4	15	16	9.5
Boston, Mass.	10	4	14	14	8
Augusta, Me.	12	5	17	18	9
Manchester, N. H.	11.5	5	16.5	17.5	8
Burlington, Vt.	13	5	18	19	8.5
New Haven, Conn.	9.5	3	12.5	12.5	8
Providence, R. I.	9.5	3	12.5	13.5	8

Dealer discount: on gasoline 2c off posted t.w. price, except 3c in New York City.

ATLANTIC REFINING

Atlantic White Flash Gasoline					
Pittsburgh, Pa.	9	4	13	14	9
Philadelphia, Pa.	9	4	13	13	9
Allentown, Pa.	9.5	4	13.5	14.5	9
Erie, Pa.	9	4	13	14	9
Scranton, Pa.	9.5	4	13.5	14.5	9
Altoona, Pa.	9.5	4	13.5	14.5	9
Dover, Del.	9.5	4	13.5	14.5	9
Wilmington, Del.	9	4	13	14	9
Boston, Mass.	10.5	4	14.5	15.5	8
Springfield, Mass.	10.5	4	14.5	14.5	8
Worcester, Mass.	10.5	4	14.5	15.5	8
Fall River, Mass.	9.5	4	13.5	14.5	8
Providence, R. I.	9.5	3	12.5	13.5	8
Hartford, Conn.	9.5	3	12.5	12.5	8
New Haven, Conn.	9.5	3	12.5	12.5	8
Atlantic City, N. J.	10	4	14	15	11.2
Camden, N. J.	9.4	4	13.4	14.4	9.5
Trenton, N. J.	9.8	4	13.8	14.8	9.5
Annapolis, Md.	9.6	5	14.6	15.6	9
Baltimore, Md.	9	5	14	15	8
Hagerstown, Md.	8	5	13	14	10.4
Richmond, Va.	9.5	6	15.5	16.5	10.7
Wilmington, N. C.	9.2	7	16.2	17.2	10.4
Brunswick, Ga.	11	7	18	19	*12.5
Jacksonville, Fla.	12	8	20	21	11

Dealer discount: on gasoline "split dealers," 2c off posted t.w. price; to 100% dealers, 2.5c to authorized dealers (under lease 1c per gal.), 2.5c off posted s.s. price. Commercial accounts, under contract for one year, are sold at a discount off the posted prices, with due consideration to competition.

*Georgia kerosine prices include 1c state tax.

Above prices include these inspection fees on both gasoline and kerosine, per gallon, figured on basis of 50 gallons per barrel:

Alabama, 1/40c on gasoline, 1/2c on kerosine; Arkansas, 1/5c per gal. in a single barrel, 1/20c per gal. in bulk; Florida, 1/8c; Illinois, 3/100c; Indiana, 1/2c per gal. in a single barrel; 3/10c per gal. in lots of 2 to 10 bbls., 1/5c for 10 to 50 bbls., 2/25c for over 50 bbls.; Kansas, 1/50c, (3/50c can be charged to meet inspection department expenses); Louisiana, 1/32c; Minnesota, 2/25c; Nebraska, 3/50c; North Carolina, 1/4c; North Dakota, 1/20c; Oklahoma, 2/25c per gal. in lots of more than 50 bbls., 1/5c in lots less than 50 bbls.; South Carolina, 1/8c; South Dakota, 1/10c; Tennessee, 2/5c; and Wisconsin, 1/25c.

Kerosine inspection fees only: Iowa, 2/25c; Michigan, 4/5c per gal. for first 2 bbls.; 3/5c for next 3; 2/5c for next 5; 3/10c for next 15, and 1/5c per gal. in lots over 25 bbls.

Tank Wagon, Service Station Markets for Gasoline and Kerosine

Tax column includes 1c federal tax, state gasoline tax, and city and county taxes as indicated in footnotes

These Prices in Effect Feb. 13, 1933, as Posted by Principal Marketing Companies

S. O. OHIO

	T.W.	Tax	Total T.W.	S.S.	Kerosine T.W.
Sohio X-70 Gasoline					
Ohio statewide	8.5	5	13.5	14	11.5
Renown Green (Third Grade)					
Ohio statewide	...	5	....	12	11.5

Dealer and commercial consumer discount: Sohio X-70, 2c off t.w. price: Renown Green, 1.5c off s.s. price: kerosine, 2.5c off t.w.

Discount to commercial consumers at service stations (company owned and operated stations) on Sohio Ethyl and X-70 gasolines, beginning Oct. 11, 1932: 1c per gal. off s.s. price, any quantity.

S. O. KENTUCKY

Crown Gasoline

Lexington, Ky.	12.5	6	18.5	18.5	11.5
Louisville, Ky.	11	6	17	18	10
Paducah, Ky.	13	6	19	19	10
Covington, Ky.	11	6	17	17	11.5
Jackson, Miss.	11	7	18	18	*11
Vicksburg, Miss.	12	7	19	19	*12
Birmingham, Ala.	11	*8	19	19	12
Mobile, Ala.	12	*8	20	20	10
Montgomery, Ala.	12	*9	21	21	*16
Macon, Ga.	12	7	19	19	*11
Atlanta, Ga.	11	7	18	18	*12
Augusta, Ga.	12	7	19	19	*12
Savannah, Ga.	12	7	19	19	*12.5
Jacksonville, Fla.	13	8	21	21	11
Miami, Fla.	13	8	21	21	12.5
Tampa, Fla.	11	8	19	19	13
Pensacola, Fla.	9	*9	18	18	12
Kyso Green (Third Grade)					
Lexington, Ky.	9.5	6	15.5	15.5	11.5
Louisville, Ky.	8.5	6	14.5	14.5	10
Paducah, Ky.	9.5	6	15.5	15.5	10
Covington, Ky.	9	6	15	15	11.5
Jackson, Miss.	8	7	15	15	*11
Vicksburg, Miss.	10	7	17	17	*12
Birmingham, Ala.	8	*8	16	16	12
Mobile, Ala.	9	*8	17	17	10
Montgomery, Ala.	9	*9	18	18	*16
Atlanta, Ga.	7.5	7	14.5	14.5	*12
Augusta, Ga.	9	7	16	16	*12
Macon, Ga.	9	7	16	16	*11
Pensacola, Fla.	7	*9	16	16	12

Dealer Discount: on Crown and Crown Ethyl gasolines, 3c off t.w. price thru territory; Kyso Green 2c. Effective Nov. 21, in Jefferson county, Ala., including Birmingham, major oil companies give 2c per gal. off s.s. price for cash, to buyers at stations, in any quantity. Effective Jan. 14, 1933, 2c per gal. discount off s.s. price for cash at Louisville by S. O. Kentucky.

***Taxes:** in the tax columns are included these city and county taxes at the following points: Birmingham, 1c city; Mobile, 1c city; Montgomery, 1c city and 1c county; Pensacola, 1c city. Georgia and Mississippi kerosine prices include 1c state tax Montgomery kerosine price includes ½c city tax

S. O. INDIANA

Standard Red Crown Gasoline

Chicago, Ill.	10.1	4	14.1	14.1	10
Decatur, Ill.	11.6	4	15.6	15.6	10.1
E. St. Louis, Ill.	10.9	4	14.9	13.9	9.3
Joliet, Ill.	11.6	4	15.6	14.6	8.6
Peoria, Ill.	11.6	4	15.6	15.6	10.1
Quincy, Ill.	11.4	4	15.4	15.4	9.9
Springfield, Ill.	11.6	4	15.6	15.6	10.1
Indianapolis, Ind.	11.4	5	16.4	16.4	‡14.1
Evansville, Ind.	11.2	5	16.2	16.2	‡13.9
South Bend, Ind.	11.7	5	16.7	16.7	‡12.5
Detroit, Mich.	11	4	15	15	8
Grand Rapids, Mich.	11.5	4	15.5	15.5	10.3
Saginaw, Mich.	11.8	4	15.8	15.8	8
Marquette, Mich.	12.1	4	16.1	16.1	10.9
Green Bay, Wisc.	11.8	5	16.8	16.8	10.5
Madison, Wisc.	11.5	5	16.5	16.5	10.2
Milwaukee, Wisc.	11.3	5	16.3	16.3	10
La Crosse, Wisc.	12.4	5	17.4	17.4	11.1
Minneapolis, Minn.	11.4	4	15.4	14.4	11
Duluth, Minn.	12.7	4	16.7	16.7	11
Mankato, Minn.	12.3	4	16.3	16.3	8.1
Des Moines, Ia.	11.7	4	15.7	15.7	8
Davenport, Ia.	11.7	4	15.7	15.7	10.4
Sioux City, Ia.	11.3	4	15.3	15.3	10
Mason City, Ia.	11.7	4	15.7	15.7	9
St. Louis, Mo.	8.5	*3.5	12	11.5	9.4
Kansas City, Mo.	10.1	†4	14.1	14.1	8.7
St. Joseph, Mo.	9	†4	13	10.9	7.5
Fargo, N. D.	14.1	4	18.1	18.1	13.0
Grand Forks, N. D.	12	4	17	16	13.3
Minot, N. D.	14.1	4	18.1	18.1	12
Pierre, S. D.	12.2	5	17.2	17.2	11.5
Huron, S. D.	12.5	5	17.5	17.5	10
Wichita, Kans.	9.9	4	13.9	13.9	7
Bartlesville, Okla.	8.5	5	13.5	16	8

S. O. INDIANA (Cont'd)

Stanolind Gasoline (Third Grade)

Stanolind prices are normally 1.5c per gal. under Standard Red Crown. Most of the following points are exceptions:

	T.W.	Tax	Total T.W.	S.S.	Kerosine T.W.
Chicago, Ill.	8.6	4	12.6	12.6	10
Decatur, Ill.	10.1	4	14.1	14	10.1
E. St. Louis, Ill.	9.4	4	13.4	11	9.3
Joliet, Ill.	9.5	4	13.5	13.5	8.6
Peoria, Ill.	9.6	4	13.6	13	10.1
Quincy, Ill.	9.9	4	13.9	13.9	9.9
Springfield, Ill.	10.1	4	14.1	12	10.1
Kansas City, Mo.	7	†4	11	11	8.7
St. Joseph, Mo.	5.9	†4	9.9	9.9	7.5
St. Louis, Mo.	7.5	*3.5	11	9.5	9.4
Detroit, Mich.	10.3	4	14.3	14.3	8
Grand Rapids, Mich.	10	4	14	13.5	10.3
Marquette, Mich.	10.6	4	14.6	14.6	10.9
Saginaw, Mich.	10.3	4	14.3	14.3	8
Mankato, Minn.	8.5	4	12.5	13	8.1
Minneapolis, Minn.	8.4	4	12.4	12.4	11
Evansville, Ind.	9.7	5	14.7	14	‡13.9
Indianapolis, Ind.	9	5	14	12.9	‡14.1
South Bend, Ind.	10.2	5	15.2	15.2	‡12.5
Davenport, Ia.	10.2	4	14.2	12	10.4
Des Moines, Ia.	7.9	4	11.9	11.9	8
Mason City, Ia.	7.6	4	11.6	12.6	9
Sioux City, Ia.	8	4	12	12	10
Green Bay, Wisc.	10.3	5	15.3	15.3	10.5
La Crosse, Wisc.	10.9	5	15.9	15	11.1
Madison, Wisc.	10	5	15	15	10.2
Milwaukee, Wisc.	7.5	5	12.5	12.5	10
Huron, S. D.	11	5	16	16	10
Fargo, N. D.	11.5	4	15.5	16.6	13
Grand Forks, N. D.	12.9	4	16.9	16	13.3
Wichita, Kan.	6	4	10	9	7
Bartlesville, Okla.	8	5	13	14	8

†Includes city tax of 1c. *Includes city tax of 0.5c. ‡Includes 4 cent state tax.
Q.D.A. (Effective May 4, 1931).

Discounts to resellers, except in Chicago, all quantities per month:

Off s.s. under 75,000 gals.: Ethyl: 3c, Red Crown 2.5c, Stanolind 1.5c. Off t.w. over 75,000 gals.: Ethyl 4c, Red Crown, 3.5c, Stanolind 2c. (See also last paragraph below).

Chicago reseller discounts: any quantity Ethyl 4c, "regular" 3.5c, third grade 2c, by principal marketers. Discounts are off s.s. below 75,000 gals., and off t.w. above 75,000 gals.

Consumer discounts, off t.w., outside Chicago: 500 to 75,000 gals., Ethyl 3c, Red Crown 2.5c, Stanolind 1.5c. Over 75,000 gals., Ethyl 4c, Red Crown 3.5c, Stanolind 2c.

Chicago consumer discounts, off t.w.: over 500 gals., Ethyl 4c, regular 3.5c, third grade 2c.

Effective Nov. 4, 1931, to all buyers from t.w., 25 gals. and over, all gasolines. 1c off t.w. price. No change in total discount to contract customers.

Discount to commercial consumers at service stations (company owned or controlled stations), beginning Oct. 1, 1932: 1c per gal. off s.s. price on Ethyl and Standard Red Crown gasolines, in any quantity.

S. O. NEBRASKA

Red Crown Gasoline

Omaha, Neb.	11.3	5	16.3	17.3	9
McCook, Neb.	12	5	17	17	11.8
Norfolk, Neb.	11.8	5	16.8	17.8	10.8
North Platte, Neb.	12	5	17	17	9
Scottsbluff, Neb.	12.8	5	17.8	18	10
Reliance Gasoline (Third Brand)					
Omaha, Neb.	9.3	5	14.3	14.4	9
McCook, Neb.	8.9	5	13.9	13.9	11.8
Norfolk, Neb.	9	5	14	15	10.8
North Platte, Neb.	9.9	5	14.9	14.9	9
Scottsbluff, Neb.	10	5	15	15	10

Dealer discount: on gasoline off normal s.s. prices: Ethyl 3c; Red Crown 2.5c; Reliance 1c.

S. O. LOUISIANA

Standard Gasoline	Posted Retail T.W.	Tax	Total Posted Retail T.W	Posted Retail S.S.	Kerosine T.W.
Little Rock, Ark.	8	7	15	15	10
Alexandria, La.	6	*7	13	13	*8.5
Baton Rouge, La.	8.5	6	14.5	14.5	*10
New Orleans, La.	8	*7	15	15	*11
Lake Charles, La.	7.5	*7	14.5	14.5	*10
Shreveport, La.	7.5	6	13.5	13.5	*11
Lafayette, La.	7.5	*7	14.5	14.5	*10
Bristol, Tenn.	10	8	18	18	13
Chattanooga, Tenn.	8.5	8	16.5	16.5	11
Knoxville, Tenn.	9	8	17	17	12.5
Memphis, Tenn.	8.5	8	16.5	16.5	10
Nashville, Tenn.	9.5	8	17.5	17.5	12

Acto Gasoline (Third Grade)	Tax	Total Posted Retail S.S.	Kerosine T.W.
Little Rock, Ark.	7	14	10
Alexandria, La.	*7	11	*8.5
Baton Rouge.	6	13.5	*10
New Orleans, La.	*7	12.5	*11
Lafayette, La.	*7	14	*10
Lake Charles, La.	*7	13	*10
Shreveport, La.	6	11	*11
Bristol, Tenn.	8	15	13
Chattanooga, Tenn.	8	15.5	11
Knoxville, Tenn.	8	16	12.5
Memphis, Tenn.	8	15	10
Nashville, Tenn.	8	15.5	12

Open dealer discounts: on Standard gasoline, 2½c per gal. off posted retail t. w. price; 2c on kerosine; no discount on Blue-Gas. Commercial consumers get sliding scale of discounts.

To commercial consumers: on Standard gasoline, on t.w. deliveries, per year, off t.w. price: up to 75,000 gals., 2.5c; 75,000 to 149,999 gals., 3c; 150,000 to 299,999 gals., 3.5c; 300,000 gals. and over, 4c.

Lease and agency discounts: Esso gasoline, 2.5c; Standard gasoline, 2c; Blue-Gas, 1c off s.s. price, plus 1c per gal. rental.

***Lake Charles, Alexandria, New Orleans and Lafayette gasoline tax includes 5c state tax, 1c federal tax, and 1c parish tax. Louisiana kerosine prices include 1c state tax; New Orleans includes also 1c parish tax.**

MAGNOLIA PETROLEUM

Mobilgas	T.W.	Tax	Total T.W.	S.S.	Kerosine T.W.
Muskogee, Okla.	6.5	5	11.5	14	8
Oklahoma City.	6.5	5	11.5	14	8
Tulsa, Okla.	7.5	5	12.5	15	8
Fort Smith, Ark.	8	†5	13	13	10
Little Rock, Ark.	8	7	15	15	10
Texarkana, Ark.	10	*5	15	15	11
Dallas, Tex.	7.5	5	12.5	15	7
El Paso, Tex.	7.5	5	12.5	15	10
Fort Worth, Tex.	7.5	5	12.5	15	7
Houston, Tex.	7.5	5	12.5	15	8
San Antonio, Tex.	8.5	5	13.5	16	8
Metro Gasoline (Third Grade)					
Muskogee, Okla.	5	5	10	11	8
Oklahoma City.	5	5	10	11	8
Tulsa, Okla.	6	5	11	12	8
Fort Smith, Ark.	7	†5	12	12	10
Little Rock, Ark.	7	7	14	14	10
Texarkana, Ark.	5	5	10	11	11
Dallas, Tex.	6	5	11	12	7
El Paso, Tex.	6	5	11	11	10
Fort Worth, Tex.	5	5	10	11	7
Houston, Tex.	6	5	11	12	8
San Antonio, Tex.	6	5	11	12	8

Dealer discounts: on Mobilgas 2.5c off t.w. price at Little Rock, Fort Smith and Texarkana. On Metro gasoline, 1c per gal. off t.w. price thru territory. Arkansas kerosine prices, 2c discount off t.w. price.

*In Texarkana, 4c Texas tax applies; outside Texarkana, 6c Arkansas tax applies.

†In Fort Smith, 4c Oklahoma tax applies; outside Fort Smith, 6c Arkansas tax applies.

CONTINENTAL OIL

Conoco Gasoline

Denver, Colo.	9	5	14	17	12.5
Pueblo, Colo.	9	5	14	17	12.5
Grand Junc., Colo.	13	5	18	21	14.5
Casper, Wyo.	11	5	16	19	10
Cheyenne, Wyo.	9	5	14	17	11.5
Butte, Mont.	14	6	20	23	17
Helena, Mont.	15	6	21	24	17
Salt Lake City, Utah	12	5	17	20	16
Boise, Ida.	14.5	6	20.5	23.5	18
Twin Falls, Ida.	14.5	6	20.5	23.5	18
Albuquerque, N. M.	8	6	14	17	14

S. O. CALIFORNIA

Standard Gasoline

San Francisco, Cal.	11	4	15	18	12.5
Los Angeles, Cal.	9.5	4	13.5	16.5	12.5
Fresno, Cal.	11	4	15	18	14
Phoenix, Ariz.	11	6	17	20	†16
Reno, Nev.	14	5	19	22	15.5
Portland, Ore.	7.4	5	12.4	15.4	13.5
Seattle, Wash.	7.4	6	13.4	16.4	13.5
Spokane, Wash.	10.9	6	16.9	19.9	18
Tacoma, Wash.	7.4	6	13.4	16.4	13.5

†Includes 5c state tax.

Discounts: On Standard and Standard Ethyl gasolines, to 100% dealers, off 1c t.w. price thru territory.

(Continued on page 76)

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2-Refinery market on gasoline or kerosine on February 3, 1932?
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Crude Oil Prices (in Effect Feb. 13, 1933)

Crude prices for the whole year in OIL PRICE HANDBOOK published annually

(Prices are per barrel at the well; A. P. I. gravity)

EASTERN FIELDS

(Posted by Joseph Seep Purchasing Agency)

Penna. Grade Oil in Southwest Penna. Pipe Lines.....$1.17
(Effective Jan. 21, 1933)

Penna. Grade Oil in Eureka Pipe Lines (West Virginia)..... 1.12
(Effective Jan. 21, 1933)

Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O.).....†0.97
(Effective Jan. 21, 1933)

Corning Oil in Buckeye Pipe Lines (Ohio)..$0.70
(Effective Jan. 20, 1933)

†For Macksburg oil run previous to March 1, 1932, $0.92.

Posted by Other Companies

Tide Water Pipe Co., Ltd.:
Bradford-Alleghany district (Penna. and N. Y.).....$1.47
(Effective Jan. 21, 1933)

*The Pennzoil Co.:
Penna. Grade Oil in National Transit Lines *$1.42
(Effective Jan. 21, 1933)

Ashland Refining Co.:
Somerset Oil in Ashland Lines (Kentucky)..$0.45
(Effective Jan. 21, 1933)

*The Pennzoil Co. posts $1.42 in Cochran, Franklin, Hamilton and Doolittle, Pa. fields; prices in other districts range down to $1.37 per bbl. at wells.

MICHIGAN

(Posted by Pure Oil Co.)

Midland, Midland County (Dec. 31, 1932)..$0.95

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.

Effective Jan. 18, 1933

Wooster	$0.70	Princeton	$0.62
Lima	0.70	Illinois	0.62
Indiana	0.42	West Kentucky	0.57

CANADIAN CRUDE

Posted by Imperial Oil Refineries, Ltd.

Western Ontario

(Effective Jan. 18, 1933)

Petrolia.....*$1.75
Oil Springs.....*$1.82

*These prices effective Jan. 18, instead of those shown on page 87, Jan. 25 issue.

Alberta

Turner Valley

(Effective Jan. 24, 1933)

40-44.9	$1.41	Naphtha:	
44-49.9	1.90	†Clear	$2.82
50 and above	2.41	†Discolored	2.58

†Clear naphtha: 22 color, 10 lbs. vapor pressure, 90% recovery, end point, 410° A.P.I. Discolored naphtha: 90% recovery and 10 lbs. vapor pressure.

(Effective Jan. 23, 1933)

Red Coulee.....$0.75

OKLAHOMA, KANSAS and NORTH TEXAS

Prices of Stanolind Crude Oil Purchasing Co.

(In Oklahoma, Kansas, North and North Central Texas)

(Effective Jan. 18, 1933)

Below 29	$0.28	35-35.9	$0.42
29-29.9	.30	36-36.9	.44
30-30.9	.32	37-37.9	.46
31-31.9	.34	38-38.9	.48
32-32.9	.36	39-39.9	.50
33-33.9	.38	40 and above	.52
34-34.9	.40		

Above prices as posted by Stanolind were met by the following companies on the dates mentioned:

Jan. 20, by Humble in North Texas, Ranger, Mexia, Powell, Boggy Creek, Richland, Wortham, Currie and Moran, Tex.; Gypsy and Carter Oil in Oklahoma and Kansas; and Pure Oil in Oklahoma, except that Pure's schedule begins with below 28 at $0.20.

Jan. 19, by The Texas Co. in Oklahoma, North, and North Central Texas.

Jan. 18, by Continental Oil in Oklahoma, Kansas and North Texas; by Sinclair-Prairie, Deep Rock, Bell Oil & Gas and Barnsdall Oil Corp.

Magnolia Petroleum Co.

(In Oklahoma, North, North Central and Central Texas)

(Including in North and North Central Texas: Burkburnett, Archer, Stephens, Henrietta, Electra, Comanche and Olden; in Central Texas: Mexia, Wortham, Corsicana Light and Panola county).

(Effective Jan. 20, 1933)

Below 25	$0.20	27-27.9	$0.26
25-25.9	.22	28-28.9	.28
26-26.9	.24		

Rest of schedule same as Stanolind, which see.

Lytton Springs, Tex.....$0.45
Corsicana heavy..... .30

PANHANDLE TEXAS

Humble Oil & Refining Co.

(Effective Jan. 20, 1933)

Carson-Hutchinson Counties

Below 35	$0.29	38-38.9	$0.37
35-35.9	.31	39-39.9	.39
36-36.9	.33	40 and above	.41
37-37.9	.35		

Gray County

Below 35	$0.34	38-38.9	$0.42
35-35.9	.36	39-39.9	.44
36-36.9	.38	40 and above	.46
37-37.9	.40		

Jan. 20, Humble's prices met by Magnolia in all three counties.

Jan. 19, The Texas Co. posted in Gray Co., 34-34.9 at $0.36, plus 2c differential to top grade of 40 and above at $0.48, in Carson-Huchinson, 34-34.9 at $0.31 plus 2c differential, to top of 40 and above at $0.43.

EAST TEXAS

Humble, Magnolia, Texas Co. and Sinclair $0.50

Effective Jan. 18, by Sinclair; Jan. 19, The Texas Co.; Jan. 20, Magnolia and Humble.

WEST TEXAS

Humble Oil & Refining Co.

(Effective Jan. 20, 1933)

Pecos, Winkler, Crane, Upton, Crockett, Ector, Howard and Glasscock Counties.....$0.30

Jan. 19, posted by The Texas Co., and Jan. 20, met by Magnolia.

NEW MEXICO

(Effective Jan. 20, 1933)

Lea County (Humble and *The Texas Co.)..$0.30

*The Texas Co., Jan. 19.

Posted by Continental Oil Co.

(Effective Dec. 15, 1932)

Artesia (Eddy County).....$0.50
Jackson (Grant County) and Maljamar....$0.45
Cat Creek, Mont. (Effective Dec. 16).....$0.87

SOUTH and SOUTHWEST TEXAS

(Posted by Humble Oil & Refining Co.)

(Effective Jan. 20, 1933)

Darst Creek	$0.40	Salt Flat	$0.40
Mirando	.35	Pettus, Bee Co.	.55

Jan. 19, The Texas Co. posts $0.35 for Darst Creek.

Jan. 20, Magnolia posts $0.35 for Darst Creek and Mirando; and $0.30 for Luling.

Conroe (Montgomery County)

Humble Oil & Refining Co.

(Effective Jan. 20, 1933)

35-35.9	$0.54	38-38.9	$0.60
36-36.9	.56	39-39.9	.62
37-37.9	.58	40 and above	.64

Jan. 19, The Texas Co. posted for Conroe: 35-35.9, $0.69, plus 1c differential to top grade of 40 and above at $0.74.

NORTH LOUISIANA-ARKANSAS

Prices of Standard Oil Co. of Louisiana

(Effective Jan. 20, 1933)

	Caddo	Homer	Haynesville	Sabine De Soto El Dorado	Sarepta Carterville
Below 29	$0.20	$0.28	$0.19	$0.25	$0.17
29-29.9	.22	.30	.21	.27	.19
30-30.9	.24	.32	.23	.29	.21
31-31.9	.26	.34	.25	.31	.23
32-32.9	.28	.36	.27	.33	.25
33-33.9	.30	.38	.29	.35	.27
34-34.9	.32	.40	.31	.37	.29
35-35.9	.34	.42	.33	.39	.31
36-36.9	.36	.44	.35	.41	.33
37-37.9	.38	.46	.37	.43	.35
38-38.9	.40	.48	.39	.45	.37
39-39.9	.42	.50	.41	.47	.39
40 and above	.44	.52	.43	.49	.41

Smackover (Jan. 20, 1933).....$0.20

Urania, La. (La. Oil Refg. Corp., Jan. 20, 1933) $0.25

Jan. 19, 1933, The Texas Co. cut N. Louisiana crude to: below 29, $0.28, plus 2c differential, to 40 and above at $0.52, all fields where it purchases. Texas Co. posted $0.30 for Smackover Jan. 19.

Jan. 20, 1933, Magnolia Petroleum posted in Pine Island, Haynesville, Bull Bayou, Cotton Valley, La., and Eldorado light and Rainbow, Ark.: below 29, $0.20; plus 2c differential to 40 and above at $0.44. Same date it posted $0.20 for Smackover, Ark. and El Dorado East field.

Jan. 20, Louisiana Oil Refining Corp. posted in Caddo, Homer, Haynesville and Cotton Valley same prices as Texas Co., which see in paragraph above. Smackover, $0.25.

Jan. 20, Gulf Refining Co. of Louisiana posted below 25 at $0.20, plus 2c differential, to top grade of 40 and above at $0.52. Smackover, $0.30.

*GULF COASTAL

Posted by Humble Oil & Refining Co.

(Effective Jan. 20, 1933)

Below 20	$0.32	27-27.9	$0.48
20-20.9	.34	28-28.9	.50
21-21.9	.36	29-29.9	.52
22-22.9	.38	30-30.9	.54
23-23.9	.40	31-31.9	.56
24-24.9	.42	32-32.9	.58
25-25.9	.44	33-33.9	.60
26-26.9	.46	34 and above	.62

Refugio heavy.....$0.45

*Includes these fields: Barbers Hill, Goose Creek, Hull, Humble, Liberty, Moss, Bluff, Mykawa, Orange, Pierce Junction, Rabbs Ridge, Raccoon Bend, Refugio light, Sour Lake, Spindletop, Sugarland and West Columbia.

Posted by The Texas Co.

(Effective Jan. 19, 1933)

Below 22	$0.55	31-31.9	$0.65
22-22.9	.56	32-32.9	.66
23-23.9	.57	33-33.9	.67
24-24.9	.58	34-34.9	.68
25-25.9	.59	35-35.9	.69
26-26.9	.60	36-36.9	.70
27-27.9	.61	37-37.9	.71
28-28.9	.62	38-38.9	.72
29-29.9	.63	39-39.9	.73
30-30.9	.64	40 and above	.74

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J.J. McNerney, H.R. Lewis Head Hyvis Oils, Inc.

WARREN, Pa., Feb. 9.—J. J. McNerney, formerly vice-president and general manager of the Hyvis Oil Refining Co. of California, Los Angeles, has been elected president of the newly organized Hyvis Oils, Inc., Warren, Pa. This company, as reported in the Jan. 4 issue of NATIONAL PETROLEUM NEWS, page 50, has taken over the Conewango Refining Co., Warren, and Fred G. Clark, Inc., Cleveland, and will market Hyvis motor oils and lubricants through distributors and agencies over the country.

Harry R. Lewis, president of the Conewango, becomes vice president of Hyvis Oils, Inc.

Other appointments include M. J. Benedict, who becomes sales manager in the central district with headquarters at Cleveland; W. J. Daily, sales manager in the central western division, with offices at Omaha; and C. D. Wood, sales promotion and advertising manager.

The Fred G. Clark Co. of Minnesota will continue to handle Hyvis business in the northwest, with W. E. Smith remaining as president and general manager.

Mr. McNerney has been vice-president and general manager of the Fred G. Clark Co., and when the Hyvis Oil Refining Co. of California was organized some years ago, he went to the Pacific Coast to handle its business there. This company will continue to market Hyvis products on the coast.

Uses Seal Against Substitution

NEW YORK, Feb. 10.—A tamperproof, air-tight seal, recently developed by the Aluminum Seal Co., New Kensington, Pa., has been adopted by the Socony-Vacuum Specialties, Inc., for cans containing their Upperlube top oil as a safeguard against substitution. The seal is combined with a special nozzle made by the Williams Sealing Corp., Decatur, Ill.

The seal is called "Goldy." It is so designed that it must be broken and destroyed before the contents of the can are available. To reinforce this protection the can carries the legend "Do not accept if seal is broken." The seal, however, is easily removed by the operator, but it cannot be replaced except with a special machine designed for that purpose.

Hancock Reports Small Loss

LOS ANGELES—Hancock Oil Co. of California has reported net loss of $8179 for the six months ended Dec. 31, 1932. In the corresponding time of 1931 the company had a net profit of $125,536.

Crude Oil Prices (in Effect Feb. 13, 1933)

(Prices are per barrel at the well; A. P. I. Gravity)

(Crude Oil Prices for the whole year in OIL PRICE HANDBOOK published annually)

ROCKY MOUNTAIN FIELDS
(Posted by Stanolind Oil & Gas Co.)
(Effective Jan. 18, 1933)

Salt Creek, Wyo.:

Below 29°	$0.28	31-31.9	$0.34
29-29.9	.30	32-32.9	.36
30-30.9	.32	33-33.9	.38
34-34.9	$0.40	38-38.9	$0.48
35-35.9	.42	39-39.9	.50
36-36.9	.44	40 and above	.52
37-37.9	.46		

(Stanolind Oil & Gas Co.)

Hogback, N. Mex. (Effective Jan. 18, 1933) $0.65

(Posted by Ohio Oil Co.)
(Effective Dec. 16, 1932)

Elk Basin, Wyo.	$0.87
Grass Creek Light	.87
Lance Creek	.92
(Effective Jan. 24, 1933)	
Rock Creek	.46
Big Muddy	.50
(Effective Nov. 7, 1932)	
Sunburst, Mont.	$0.75

CALIFORNIA CRUDE

Standard Oil Co. of California

(All gravities above those quoted take highest price offered in the field)
Effective June 26, 1932

Gravity	Signal Hill	Seal Beach Alamitos Heights Huntington Beach	Inglewood	Playa del Rey	Olinda-Brea Canon	Elwood Terrace	Torrance Richfield	Whittier La Habra	Montebello	Athens Rosecrans Dominguez	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway Sunset Elk Hills Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge	Kettleman Hills	Ventura Avenue (Associated Oil Co.)	Santa Paula (Union Oil Co.)	Orcutt (Union Oil Co.)
14-19.9	$0.65	$0.65	$0.65	$0.65	$0.65	....	$0.65	$0.65	$0.65	....	$0.65	....	$0.55	$0.55	$0.55	$0.55	$0.55	....	$0.72	$0.65	$0.55
20-20.9	.69	.69	.71	.69	.69	....	.69	.68	.65	....	.65	....	....	.59	.59	.59	.57	....	.77	.69	.59
21-21.9	.74	.74	.77	.74	.74	....	.74	.72	.67	....	.66	....	....	.63	.63	.62	.60	....	.82	.72	.63
22-22.9	.79	.79	.82	.78	.79	....	.79	.77	.70	....	.70	....	....	.69	.69	.65	.63	....	.86	.75	.69
23-23.9	.84	.84	.87	.82	.84	....	.84	.83	.73	....	.76	....	....	.75	.75	.68	.66	....	.90	.78	.75
24-24.9	.89	.89	.92	.86	.89	F.o.b.	.89	.89	.76	$0.89	.81	$0.73	....	.81	.81	.72	.69	....	.93	.81	.81
25-25.9	.93	.93	....	.91	.93	Ship	.93	....	.80	.93	.86	.79	....	.87	.87	.75	.72	....	.96	.84	.82
26-26.9	.97	.97	....	.96	.97	....	....	....	....	.97	.90	.84	....	.92	.91	....	....	....	.99	.87	.97
27-27.9	1.00	....	....	Subject to field gathering charge of 5c per barrel	1.00	....	....	....	....	1.00	.94	.89	....	.97	.94	....	....	....	1.02	.90	....
28-28.9	1.03	....	....		1.03	....	....	....	....	1.03	.98	.94	....	1.02	.99	....	....	....	....	.93	....
29-29.9	1.06	....	....		....	....	....	....	....	1.06	1.02	.98	....	1.07	1.02	....	....	....	....	.96	....
30-30.9	1.09	....	....		....	....	....	....	....	1.09	1.05	1.02	....	1.12	1.05	....	....	....	....	.99	....
31-31.9	....	....	....		....	....	....	....	....	1.12	....	1.06	....	....	....	....	....	....	....	....	....
32-32.9	....	....	....		....	....	....	....	....	1.15	....	1.10	....	....	....	....	....	....	....	....	....
33-33.9	....	....	....		....	$1.04	....	....	....	....	....	1.14	....	....	....	....	....	$0.91	....	....	....
34-34.9	....	....	....		....	1.10	....	....	....	....	....	1.18	....	....	....	....	....	.93	....	....	....
35-35.9	....	....	....		....	1.16	....	....	....	....	....	1.22	....	....	....	....	....	.95	....	....	....
36-36.9	....	....	....		....	1.22	....	....	....	....	....	....	....	....	....	....	....	.97	....	....	....
37-37.9	....	....	....		....	1.28	....	....	....	....	....	....	....	....	....	....	....	.99	....	....	....
38-38.9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1.01	....	....	....
39 and above	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1.03	....	....	....

REFINERS' and COMPOUNDERS' SUPPLIES

Following are average market prices for materials used by refiners and compounders effective on the date shown.

Refiners' Supplies

	Feb. 13	Feb. 6
Soda Ash Light 58⅓ bags, cwt.	$1.125-1.38	$1.125-1.38
Silicate of Soda 60 deg. drums, cwt.	$1.75-1.90	$1.75-1.90
Silicate of Soda 40 deg. drums, cwt.	$0.70-1.00	$0.70-1.00
Silicate of Soda 40 deg. drums, cwt.	$0.70-1.00	$0.70-1.00
Sal Soda wks.	$0.90-1.00	$0.90-1.00
Caustic Soda 76% solid, cwt.	$2.55	$2.55
Sulfuric Acid 60 deg. tank cars, f.o.b. shipping point per ton	$11.00-12.50	$11.00-12.50
Sulfur, flowers of, cwt.	$3.10-4.05	$3.10-4.05
Liquid Chlorine, tank cars, wks., lb.	1.75	1.75

Compounder's Supplies

	Feb. 13	Feb. 6
Vegetable Oils		
Linseed carloads, spot, lb.	7.40	7.40
Tanks, spot	6.80	6.80
Soya Bean, Tank, coast, lb.	3.00-3.25	3.25
Oleic Acid		
Distilled, tanks, lb.	5.00	5.00
Distilled, bbls., lb.	5.875	5.875
Saponified, tanks, lb.	5.25	5.25
Saponified, bbls., lb.	6.00	6.00
Lard Oils		
Prime Winter Strained, lb.	8.50	8.50
Extra Winter Strained, lb.	7.50	7.50
Extra No. 1, lb.	6.125	6.125
No. 1, lb.	6.00	6.00
No. 2, lb.	5.75	5.75
Tallow oil, lb.	5.75	5.75
Neatsfoot Oil		
Pure, bbls., lb.	7.75	7.75
Extra, bbls., lb.	6.50	6.50
No. 1 bbls., lb.	6.375	6.375
Cold Pressed, lb.	11.75	11.75
Fish Oils		
Menhaden Oil		
Light Pressed, gal.	31-32	31-32
Light Pressed, tank cars, N. Y., gal.	23.50-24	23.50-24
Yellow bleached, gal.	34.50-35	34.50-35
Whale, extra winter bleached, gal.	51-52	51-52
Naval Stores		
Steam distilled turpentine, N. Y., gal.	43.00	43.00
Steam, distilled turpentine, Savannah, gal.	39.75	39.50
Gum turpentine, N. Y., gal.	49.75	48.00
Gum turpentine, f.o.b. cars Savannah, gal.	38	38
Wood Rosin, N. Y., bbl.	$3.43	$3.43
Wood Rosin F, Savn'h, bbl.	$2.65	$2.75
Gum Rosin B, N. Y., bbl.	$2.90	$2.80
Gum Rosin B, f. o. b. cars Savannah, bbl.	$1.65	$1.55
Rosin oil, pure, gal.	39-40	39-40
Rosin, oil, compounded, gal.	41-43	41-43
Pine Tar		
Kiln burnt, $	8.50- 9.50	$8.50- 9.50
Retort, bbl. $	9.50-10.00	$9.50-10.00
Alcohol		
Denatured Formula 5, per gal., in bbls., car lots	39.6	39.6

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National Petroleum News, 735 Penton Bldg., Cleveland, Ohio

Pure Oil Co. Forms Two Subsidiary Units

CHICAGO—The Pure Oil Co. announces the formation of two subsidiary companies in southeastern territory in the latest issue of the company's house organ "Pure Oil News." These are the Pure Oil Co. of the Carolinas, and the Pure Oil Co. of Tennessee.

The Carolina subsidiary is a merger of the Central Oil Co. of N. C. and the Peoples Oil Co. of South Carolina. These two companies have outlets in practically every part of the states.

Tennessee is new territory for the Pure Oil Co. and the new subsidiary starts off with 13 bulk plants and about 600 retail outlets. Direct retail operations will be at Chattanooga, with jobber accounts at McMinnville, Columbia, Pulaski, Nashville and Athens. The Cherokee Oil Co., Knoxville, will have charge of affiliated company operations.

Officials of the Tennessee company are R. H. McElroy, Jr., president; W. L. Moore and D. L. Gilland, vice-presidents; C. H. Jay, secretary-treasurer; and C. A. Beattie, O. M. Colston and R. L. Milligan assistant secretary-treasurers. General offices will be in Atlanta, Ga.

Lincoln Oil Buys Johnson Bros. Oil of Indiana

SOUTH BEND, Ind., Feb. 10.—Johnson Bros. Oil Co., compounder and marketer of Valparaiso, Ind., has been acquired by the Lincoln Oil Refining Co., Robinson, Ill., subsidiary of The Ohio Oil Co., Findlay, O. Included in the sale were 24 service stations in five northern Indiana counties, with gasoline gallonage for 1932 totaling 855,885, according to tax reports.

The company was operated by M. J. and E. C. Johnson who organized it five years ago. It has no connection with the Johnson Oil Refining Co. of Chicago, nor the Johnson Hi-Test Oil Co., of Freeport, Ill.

Benjamin Boring, manager of the Valparaiso division of the Lincoln company, concluded the negotiations.

Lincoln operates a 10,000-barrel refinery at Robinson and has erected several modern one-stop stations recently.

Champions for Two Years

LANSING, Mich.—A girls baseball team sponsored by the Lansing Oil Co., Dixie distributor in Michigan's capital city, won the city championship for the second consecutive year.

BALCRANK'S New Hose Reel

Side panels are independent of housing. Attractive metal housing is rigid and durable. Finished in standard black and red although special colors are available. Manufactured under the standard Balcrank guarantee.

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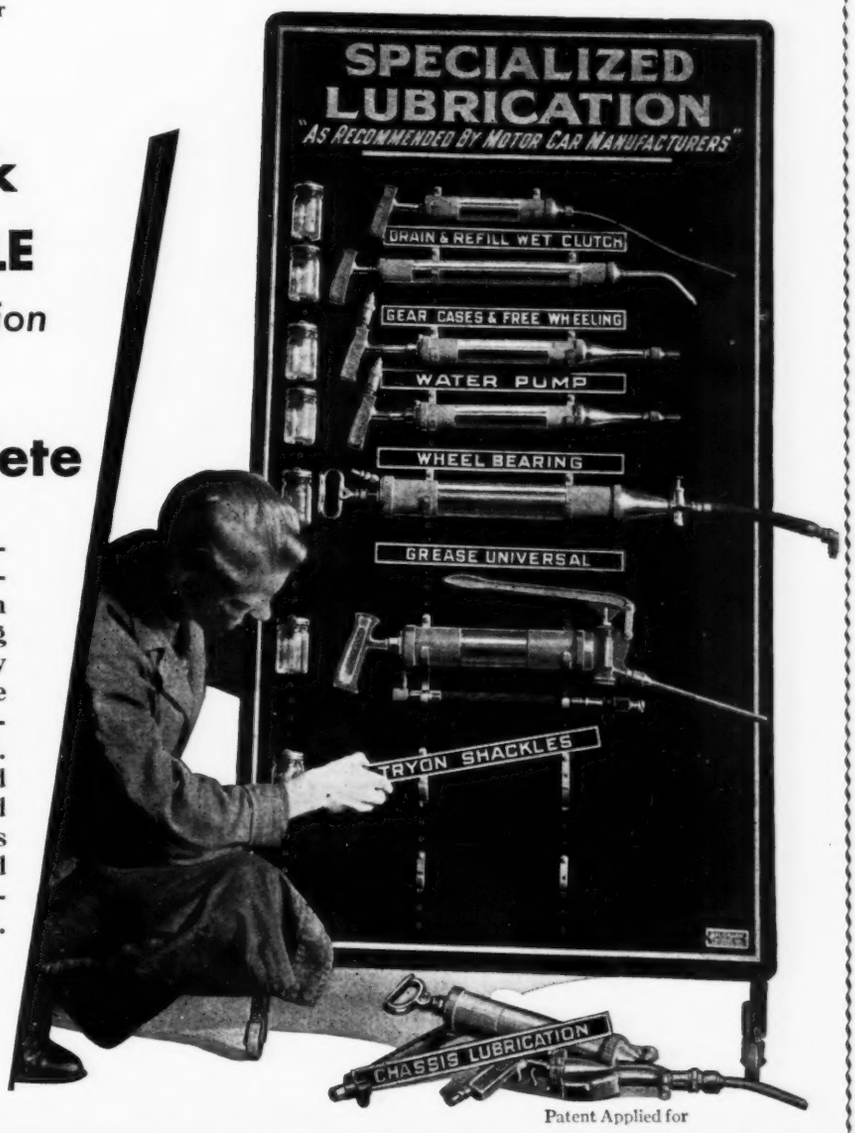

Patent Applied for

The Cincinnati Ball Crank Co.

Cincinnati, Ohio

THE CINCINNATI BALL CRANK CO., CINCINNATI, OHIO.

Transactions in Oil Shares on New York Stock Exchange

1931 High	1931 Low	1932 High	1932 Low	Listed Shares	Par Value	Company	Div. Rate Period	Last Div. Paid	Transactions Week Ended Feb. 11 Sales Shares	High	Low	Last	Week's Change
23	11¼	22¾	12	922,075	N.P.	Amerada Corp.	50cQ	Jan. 31, 33	3,200	21	20	21	+ ⅝
31	8¾	16½	6¾	2,240,000	$25	Associated Oil Co.	25cQ	Dec. 31, 32	.....	.....	.....	.....	.....
23⅜	8⅜	21⅞	8⅜	2,696,652	25	Atlantic Refining Co.	25cQ	Dec. 15, 32	7,000	16½	15¼	16½	+ 1
14½	4	7	3⅜	2,257,740	5	Barnsdall Corp.	....	May 11, 31	12,400	4	3⅜	4	+ ½
10½	7½	12½	6¼	1,444,970	N.P.	Colonial Beacon Oil Co.	....	.....	.....	.....	.....	.....	.....
15⅞	4½	9	4	14,218,835	N.P.	Consolidated Oil Corp.	....	.....	22,600	6⅛	5⅛	6	+ ¾
103	64	101	79	141,294	$100	do pfd.	$2Q	Nov. 15, 32	800	99¾	99⅜	99¾	+ 2⅜
12	5	9⅜	3⅜	4,722,301	N.P.	Continental Oil Co.	....	.....	15,900	6⅛	5¼	6⅛	+ ⅜
47	9⅜	15½	4¾	413,333	N.P.	General Asphalt Co.	....	June 15, 32	2,800	7⅛	6⅝	7	+ ⅜
68½	15¼	28¾	8¾	96,116	$100	Houston Oil Co.	....	.....	1,000	13½	12⅜	13½	+ 1
14⅛	3	5⅜	1⅜	677,019	25	do new.	....	.....	1,300	2¾	2½	2½	0
4⅜	1⅜	2¼	1	556,546	10	Indian Refining Co.	....	Dec. 15, 20	200	1½	1⅜	1½	0
4½	1	2¾	½	1,309,036	N.P.	Louisiana Oil Ref'g. Corp.	....	.....	600	1	¾	¾	+ ⅛
55	20	18	3	40,000	$100	do pfd.	....	May 16, 32	50	4	4	4	0
3¾	½	1⅜	⅜	330,000	N.P.	Maracaibo Oil Exploration Co.	....	.....	.....	.....	.....	.....	.....
171	50⅛	65	50	459,428	$100	Mexican Petroleum Co.	....	Apr. 20, 31	.....	.....	.....	.....	.....
16¾	5	8⅞	4	1,857,912	N.P.	Mid-Continent Petroleum Corp.	....	Feb. 16, 31	2,100	4⅞	4½	4¾	0
19½	5⅛	11	5	6,548,052	N.P.	Ohio Oil Co.	20cQ	Dec. 15, 32	7,400	6½	5¾	6⅜	+ ½
35½	20	34	6	1,000,000	$5	Pan American Pet. & Transp. Co.	20cQ	Dec. 15, 32	.....	.....	.....	.....	.....
36½	18	34⅞	7⅜	2,474,131	5	do B non-voting.	20cQ	Dec. 15, 32	200	12	12	12	0
4¼	⅜	1¼	¼	199,370	N.P.	Panhandle Prod. & Ref'g. Co.	....	.....	.....	.....	.....	.....	.....
20	5	10	3½	25,666	$100	do pfd.	....	July 2, 23	.....	.....	.....	.....	.....
10⅞	2⅞	7⅜	3	2,396,084	N.P.	Petroleum Corp. of America.	....	June 1, 31	5,400	6⅜	5⅜	6¼	+ ⅜
16⅝	4	8½	2	4,421,910	N.P.	Phillips Petroleum Co.	....	Jan. 2, 31	9,500	5⅞	5¼	5⅝	+ ⅜
1½	¼	¼	¼	1,184,917	$25	Pierce Oil Corp.	....	.....	300	⅜	⅜	⅜	0
23¾	3½	9	3½	150,000	100	do pfd.	....	Feb. 1, 22	500	5½	5	5½	+ ½
3⅜	½	1⅝	½	2,500,000	N.P.	Pierce Petroleum Corp.	....	Feb. 16, 31	3,500	1	⅝	1	+ ⅜
.....	.....	12½	8½	1,050,000	$5	Plymouth Oil.	25cQ	Dec. 30, 32	2,000	8	7½	7⅝	— ⅜
20⅜	4⅛	9½	3½	2,441,432	25	Prairie Oil & Gas Co.	....	Mar. 31, 31	100	6	6	6	+ ¾
26½	5⅞	12¼	5¾	4,050,000	25	Prairie Pipe Line Co.	....	July 1, 31	300	8⅛	7⅞	8⅛	+ ⅜
6	1	1⅝	¼	749,017	50	Producers & Refiners Corp.	....	Sept. 15, 23	600	⅜	¼	⅜	0
16	3	9¾	1	56,907	50	do pfd.	....	May 4, 25	.....	.....	.....	.....	.....
11⅜	3¼	6½	2⅞	3,038,370	25	Pure Oil Co.	....	Sept. 1, 30	1,600	3⅜	3⅛	3¼	+ ⅛
101⅞	53½	80	50	130,000	100	do 8% pfd.	$2Q	Jan. 3, 33	140	55	55	55	— 2
6⅝	⅜	1⅝	¼	2,126,250	N.P.	Richfield Oil Co. (California).	....	Sept. 1, 30	600	⅜	⅜	⅜	— ⅛
42⅝	13	23¾	12¼	558,343	$13.40	Royal Dutch Co. (N. Y. shares).	80⅓c	Aug. 5, 32	1,000	20⅛	19¼	20⅛	+ ⅝
20¾	5⅛	17½	6⅜	1,244,383	N.P.	Seaboard Oil Co. of Del.	10cQ	Dec. 15, 32	4,300	17¼	15	17¼	+ 2⅛
34	5	15⅜	8	62,825	£2	Shell Transport & Trading Co.	53c	July 22, 32	10	18	18	18	0
10¼	2½	8¾	2½	13,070,625	N.P.	Shell Union Oil Corp.	....	June 30, 30	9,000	5⅜	4	5¼	+ 1
78	15	65¼	18	400,000	$100	do pfd.	....	July 1, 31	2,500	38¼	35	38¼	+ 3¼
11	3½	7½	3¼	869,271	10	Simms Petroleum Co.	25cQ	Jan. 16, 33	200	5¾	5¾	5¾	+ ½
12⅜	2	5¾	2½	1,000,000	25	Skelly Oil Co.	....	Dec. 15, 30	700	3½	3¼	3¼	0
62	10	33½	12	120,000	100	do pfd.	....	May 1, 31	400	24⅛	24	24	+ ½
21	8⅛	12¼	5¼	31,764,443	25	Socony Vacuum Corp.	10cQ	Dec. 15, 32	40,600	7⅜	6¼	7¼	+ ¾
106	87½	99	81½	764,935	100	S. O. Export Corp. pfd.	$2.50S.A.	Dec. 31, 32	1,500	100¼	100	100¼	+ ¼
51¾	23⅛	31⅞	15⅛	13,102,900	N.P.	S. O. California.	50cQ	Dec. 15, 32	23,100	24¾	23	24⅝	+ 1⅝
19	7¾	16½	7	320,000	$10	S. O. Kansas.	.....	Mar. 16, 31	4,600	17	16¾	17	0
51⅛	26	37⅝	19¼	25,735,466	25	S. O. New Jersey.	††25cQ	Dec. 15, 32	48,400	27⅛	25⅛	26⅞	+ 1
45¾	26¾	36½	24¾	1,544,365	N.P.	Sun Oil Co.	††25cQ	Dec. 15, 32	100	36	36	36	0
104½	75	91	68	100,000	$100	do pfd.	$1.50Q	Dec. 1, 32	60	98	97	97	+ ½
1⅜	⅜	3	¼	776,979	N.P.	Superior Oil Corp.	....	.....	16,900	1⅜	1	1¼	0
35⅞	9⅞	18¼	9¼	9,851,236	$25	The Texas Corp.	25cQ	Jan. 1, 33	10,900	13¼	12¼	13⅛	+ ¾
6½	1⅞	4	1½	930,454	10	Texas Pacific Coal & Oil Co.	....	Dec. 31, 29	300	1¾	1⅝	1¾	+ ¼
9	2⅛	5⅛	2	5,998,086	N.P.	Tide Water Associated Oil Co.	....	Feb. 16, 31	8,700	4	3¼	4	+ ¾
68	20¾	60	20	695,494	$100	do pfd.	$1.50Q	Jan. 3, 33	400	43⅛	42⅞	43½	— ½
18	9⅛	10	5	2,191,954	N.P.	Tide Water Oil Co.	25cQ	Dec. 31, 32	.....	.....	.....	.....	.....
83	30	62	30	199,446	$100	do pfd.	$1.25Q	Nov. 15, 32	500	50	45	50	+ 5
26⅝	11	15⅝	8	2,225,302	25	Union Oil Co. California.	25cQ	Nov. 10, 32	700	10½	10	10¼	+ ⅛
25⅛	16	19¼	11¼	1,254,048	N.P.	Union Tank Car Co.	35cQ	Dec. 1, 32	500	12⅞	12	12⅞	+ 1⅜
7⅜	⅛	2¼	⅛	769,531	N.P.	Warner Quinlan Co.	....	July 3, 30	1,400	1¼	1	1	— ⅛
9⅜	2¼	8¼	2¼	428,967	N.P.	H. F. Wilcox Oil & Gas Co.	....	May 10, 28	1,600	2⅞	2⅝	2⅞	+ ⅛

*New high. †New low. ††Also extra—S. O. New Jersey 25c; 3% stock Dec. 15, 32.

Tank Wagon Table

(Continued from page 69)

CANADA

Prices of Imperial Oil Ltd.
(Per Imperial Gallon, which is 1.2 U. S. Gallons)

	Imperial Three Star Gasoline T.W.	Tax	Total T.W.	S.S.	Kerosine T.W.
Hamilton, Ont.	16.5	6	22.5	25.5	15.5
Toronto, Ont.	16.5	6	22.5	25.5	15.5
Brandon, Man.	22	7	29	32.5	20.5
Winnipeg, Man.	19	7	26	29.5	17.5
Regina, Sask.	23	6	29	33	21.5
Saskatoon, Sask.	25	6	31	35	23.5
Edmonton, Alta.	24	5	29	32.5	22.5
Calgary, Alta.	20.5	5	25.5	29	19
Vancouver, B. C.	19.5	7	26.5	29.5	24
Montreal, Que.	16	6	22	25	15
St. John, N. B.	17.5	7	24.5	28.5	20.5
Halifax, N. S.	17.5	6	23.5	27.5	20.5

Aviation Gasoline Prices

Following are tank wagon prices of aviation gasoline in principal marketing territories. Tax column includes 1c federal tax, and state tax; also municipal taxes as indicated in footnotes.

S. O. NEW JERSEY

Prices in Effect Feb. 13, 1933

Stanavo Aviation Gasoline	T.W.	Tax	Total T.W.
Newark, N. J.	16	1	17
Baltimore, Md.	16	5	21
Washington, D. C.	16.3	3	19.5

Discounts: to dealers and contract consumers, 2c per gal. off posted t.w. price.

COLONIAL BEACON OIL CO.

	T.W.	Tax	Total T.W.
Stanavo Aviation Gasoline			
New York City	16	4	20
Boston, Mass.	17	4	21

S. O. PENNSYLVANIA

Stanavo Aviation Gasoline			
Philadelphia, Pa.	13.5	4	17.5
Pittsburgh, Pa.	16	4	20
Altoona, Pa.	16	4	20
Harrisburg, Pa.	13.5	4	17.5

Discounts: to dealers and contract consumers, 2c per gal. off posted t.w. price.

S. O. OHIO

Sohio Aviation Gasoline			
Thru Ohio	15	5	20

Discounts: to airports, 1 to 4c, based on quantity

S. O. INDIANA

Stanavo Aviation Gasoline			
Chicago, Ill.	14.1	4	18.1
Indianapolis, Ind.	14.4	5	19.4
Detroit, Mich.	14.8	4	18.8
Milwaukee, Wisc.	14.3	5	19.3
Minneapolis, Minn.	15.4	4	19.4
St. Louis, Mo.	13.6	3	16.6
Kansas City, Mo.	14.1	*4	18.1
Fargo, N. D.	17.1	4	21.1
Huron, S. D.	15.5	5	20.5
Wichita, Kans.	13	4	17

*Includes 1c city tax.

S. O. LOUISIANA

	T.W.	Tax	Total T.W.
Stanavo Aviation Gasoline			
Little Rock, Ark.	18	7	25
New Orleans, La.	17	*7	24
Shreveport, La.	17	6	23
Chattanooga, Tenn.	20	8	28
Memphis, Tenn.	18	8	26

Dealer and commercial consumer discount: 2c off posted retail t. w.
*Includes 1c parish tax.

CONTINENTAL OIL CO.

Denver, Colo.	12	5	17
Cheyenne, Wyo.	14	5	19
Helena, Mont.	18	6	24
Salt Lake City, Utah.	15	5	20
Albuquerque, N.M.	13	6	19
Boise, Ida.	17.5	6	23.5

S. O. CALIFORNIA

Stanavo Aviation Gasoline			
Phoenix, Ariz.	15.5	6	21.5
Los Angeles, Cal.	12.5	4	16.5
San Francisco, Cal.	14	4	18
Reno, Nev.	17	5	22
Portland, Ore.	10.4	5	15.4
Seattle, Wash.	10.4	6	16.4
Spokane, Wash.	13.9	6	19.9

Note: Above prices are in tank trucks or iron barrels. For deliveries direct into airplane fuel tanks, 3c per gal. additional.

Naphtha Prices

Prices in Effect Feb. 13, 1933

	Oleum Spirits	V.M.&P. Naphtha	Cleaner Naphtha
Chicago	11.7	13.7	15.2
Detroit	15.4	16	16.5
Kansas City	†13	†14.5	†15.3
Milwaukee	*17.5	*19	*19.8
Minneapolis	**17 8	**19 3	**20.1
St. Louis	12.7	14.2	15
New York	...	14	15
Boston	...	16	16
Philadelphia	...	15	...

*Includes 4c state tax. †Includes 1c city tax.
**Includes 3c state tax.

Petroleum Spirits (Solvent)

Tank Cars (F.o.b. refinery or seaboard terminal)	
New York Harbor	9.00
Philadelphia district	9.00
Providence	9.00
Tank Wagon or Steel Barrels	
New York City	12
Syracuse	15
Rochester	14
Buffalo (net price)	13
Providence	16
Boston	16
Bridgeport	16
Newark	14
Philadelphia	13
Lancaster	17
Altoona	17
Baltimore	*14

Note: 2c off above t.w. prices to large buyers in some instances. *4c discount allowed on 200 gal. or more in Baltimore only, with 1c premium for steel barrels.

Fuel Oil

Following are tank wagon prices of various grades of fuel oil at the points shown in various territories. Prices are in cents per gallon:

Prices in Effect Feb. 13, 1933

	No. 1	No. 2	No. 3	No. 4
S. O. New Jersey				
Newark, N. J.	8	6.5	....	6
Atlantic City, N. J.	8	6.5	....	6
Baltimore, Md.	6.5	5	....	5
Washington, D. C.	8.25	6.75	....	6.25
S. O. New York				
New York City	7	6.5	6.5	5.5
Albany, N. Y.	7	6.5	6.5	5.5
Rochester, N. Y.	7	6.5	6.5	5.5
Boston, Mass.	7	6.5	6.5	5.5
Augusta, Me.	7	6.5	6.5	5.5
Manchester, N. H.	7	6.5	6.5	5.5
Burlington, Vt.	7	6.5	6.5	5.5
New Haven, Conn.	7	6.5	6.5	5.5
Providence, R. I.	7	6.5	6.5	5.5
Atlantic Refining				
Philadelphia, Pa.	7.5	6	5.5	....
Allentown, Pa.	8.5	7	7	....
Wilmington, Del.	8	6.5	6	....
Springfield, Mass.	7	6.5	6.5	....
Worcester, Mass.	7	6.5	6.5	....
Hartford, Conn.	7	6.5	6.5	....
S. O. Ohio				
Cleveland	7.5	6.5	6	....
Columbus	7.5	6.75	6.25	....
Cincinnati	7.5	6.75	6.25	....
Toledo	7.5	6.75	6.25	....

Note: S. O. Ohio prices are for hose dumps; bucket dumps are 0.5c per gallon higher.

S. O. Indiana
Stanolex Fuel Oil No. 1

Chicago, Ill.	9
Indianapolis, Ind.	*13.4
Detroit, Mich.	9
Madison, Wis.	9
Minneapolis, Minn.	10.1
Sioux City, Ia.	8.6
St. Louis, Mo.	8.9
Kansas City, Mo.	7.8

*Includes state tax of 4c.

Discounts: at Chicago, Indianapolis and Detroit, 2c off t.w. price for deliveries of 100 gals. and over; at other above points, 2c off t.w. price for deliveries 50 gals. and over.

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Indiana House Increases Chain Store Tax

INDIANAPOLIS, Feb. 11.—A bill to materially increase the chain store tax, which includes service stations in Indiana, has been passed by the house. Hearing on the bill before the senate finance committee is set for Feb. 13.

The old law taxed chain stores $3 for the first outlet up to $25 for over 20 stores. The new law proposes to tax the first store $5, 2 to 5 stores $10 each, 6 to 10 stores $25, 11 to 20 stores $50, over 20 stores $150 each.

Forms New Subsidiary

LOS ANGELES, Feb. 9.—Superior Oil Co. has formed a wholly owned subsidiary, Superior Oil Co. of California, with an authorizated capital of 100,000 shares, no-par value. The State Corporation department has authorized the issue of 5000 shares.

The subsidiary company was formed to carry on operations in Texas and to avoid any confusion between Superior Oil Co. and Superior Oil Corp.—a Mid-Continent firm.

Directors of the new company were listed in the permit as: Wm. M. Kect, F. D. Jones, C. A. Dore, Howard W. Wright, and Wm. M. Keck, Jr.

Standard Oil Stocks on New York Curb Market

1931 High	1931 Low	1932 High	1932 Low	Shares Issued	Par Value	Company	Div. Rate Period	Last Div. Paid	Transactions Week Ended Feb. 11 Sales Shares	High	Low	Last	Week's Change
16	6	7	6	40,000	$25	Borne Scrymser Co.	....	Oct. 15, 30	.....	....	....	....	....
56	30	35	17½	200,000	50	Buckeye Pipe Line Co.	75cQ	Dec. 15, 32	.....	....	....	....	....
129½	75	90	55	120,000	25	Chesebrough Mfg. Co.	††$1Q	Dec. 30, 32	250	90	86	86½	— 3½
3⅛	1⅜	3⅛	1¼	5,977,873	N.P.	Creole Petroleum Co.	....	.....	1,900	2¾	2⅝	2¾	+ ⅛
36	19	32	18	50,000	$100	Eureka Pipe Line Co.	$1Q	Feb. 1, 33	450	27½	26	26	— 2
72	44¼	55	36⅜	2,974,645	25	Humble Oil & Refg. Co.	50cQ	Jan. 1, 33	800	44¼	43¼	44	+ ½
18⅛	7⅜	10⅞	6¼	26,557,496	N.P.	Imperial Oil Corp. coup.	12½cQ	Dec. 1, 32	1,500	7¾	6⅞	7¼	+ ⅛
18	7⅛	10⅛	6⅞	.....	N.P.	do registered	12½cQ	Dec. 1, 32	.....	....	....	....	....
21⅛	5⅛	7½	2⅞	300,000	$10	Indiana Pipe Line Co.	††10cS.A.	Nov. 15, 32	200	3⅝	3½	3⅝	+ ⅛
15⅛	7⅜	12¼	8	14,247,088	N.P.	International Petroleum Co.	25cQ	Dec. 15, 32	6,500	10⅜	9¼	10¾	+ ¾
17½	5	10⅛	6	509,000	$12.50	National Transit Co.	20cQ	Dec. 15, 32	100	6⅝	6⅝	6⅝	+ ¼
14⅛	5⅞	6	2¼	100,000	5	New York Transit Co.	††20cQ	Oct. 15, 32	.....	....	....	....	....
35½	20	5	3	120,000	10	Northern Pipe Line Co.	25cS.A.	Jan. 2, 33	900	5⅜	5⅛	5⅜	— ¼
102⅞	67⅛	79	60	580,668	100	Ohio Oil Co. pfd.	$1.50Q	Dec. 15, 32	100	71½	71½	71½	— 3¼
15½	5⅛	10	1¾	400,000	25	Penn Mex. Fuel Co.	50c	May 25, 32	.....	....	....	....	....
17	7	10	4¾	100,000	10	Southern Pipe Line Co.	15cQ	Dec. 1, 32	.....	....	....	....	....
23⅞	9¼	16½	9⅜	1,200,000	25	South Penn Oil Co.	25cQ	Dec. 30, 32	1,600	11⅝	11	11⅝	+ ¼
42½	25	37	27	35,000	50	South West Pa. Pipe Lines	$1Q	Dec. 31, 32	100	29	29	29	— 4
38⅛	13⅛	25⅛	13⅛	16,996,596	25	S. O. Indiana	25cQ	Dec. 15, 32	27,100	21¼	20	21⅛	+ 1⅛
23⅜	12⅛	15⅞	8⅞	2,606,983	10	S. O. Kentucky	30cQ	Dec. 31, 32	800	11	10⅝	10⅝	— ⅛
36⅛	16	19	10¼	190,822	25	S. O. Nebraska	25cQ	Dec. 20, 32	.....	....	....	....	....
62⅛	23	30¼	15⅛	120,000	25	S. O. Ohio	37½cQ	Jan. 3, 33	50	18½	18½	18½	— ½
115¾	78⅛	87	78⅛	34,158	100	do 5% pfd.	$1.25Q	Jan. 16, 33	.....	....	....	....	....
10	1	2	1¾	.....	25	Swan Finch Oil Corp.	....	Jan. 15, 32	.....	....	....	....	....

•New high †New low. ††Also extra—Chesebrough $1. N. Y. Transit 10c. Indiana P.L. 5c.

Oil and Royalty Stocks on New York Curb

1931 High	1931 Low	1932 High	1932 Low	Par Value	Company	Transactions Week Ended Feb. 11 Sales Shares	High	Low	Last	Week's Change
1⅜	1/16	1/16	1/16	N.P.	American Maracaibo	.....	....	....	....	....
6⅛	1⅞	3⅛	⅜	N.P.	Arkansas Nat. Gas	1,200	1⅜	1⅛	1¼	— 1/16
6¾	1⅞	3⅛	⅜	N.P.	do A	900	1¼	1⅛	1¼	0
7	3⅞	5⅜	1⅛	$10	do pfd.	300	2½	2⅜	2½	— ⅛
1	....	⅛	1/16	N.P.	Atlantic Lobos	.....	....	....	....	....
3⅛	¼	⅜	⅛	$50	do pfd.	.....	....	....	....	....
16⅞	6¼	9¾	6¾	N.P.	British Amer. Oil coup.	.....	....	....	....	....
2⅜	⅛	⅜	⅛	$¼	Carib Syndicate	600	⅜	¼	¼	0
20⅜	5	6⅞	1¼	N.P.	Cities Service	41,200	2⅝	2⅛	2⅝	+ 1/16
84¾	35⅜	53⅜	10	$100	do pfd.	900	14⅝	13½	14¼	+ ¼
7⅛	4	4⅛	1	$10	do pref. B	.....	....	....	....	....
84	41⅜	45	9	100	do pref. BB	10	13	13	13	+ 1
1⅜	⅛	1¼	⅛	N.P.	Colon Oil Corp.	500	⅜	¼	¼	— 1/16
7⅛	1	2⅛	⅜	N.P.	Columbia Oil & Gas vtc.	700	⅜	¾	¾	— ⅛
2¾	1	2	1	$1	Consolidated Royalty	400	1	1	1	0
3¾	⅜	2⅞	⅛	N.P.	Cosden Oil	400	1⅜	1⅝	1¾	+ 1/16
15	1	8	1⅜	$100	do pfd.	700	2	1⅝	2	+ ½
⅝	1/16	⅜	1/16	N.P.	Crown Central Pet.	400	⅜	⅜	⅜	— 1/16
5	1¾	7¼	1⅜	N.P.	Darby Petroleum	100	2⅞	2⅞	2⅞	+ ⅛
6	1⅜	3	1	N.P.	Derby Oil & Ref'g.	.....	....	....	....	....
40⅛	25	24⅜	10⅜	N.P.	do pfd.	.....	....	....	....	....
76	25⅜	44⅜	23	$25	Gulf Oil Corp.	1,200	27½	26	27⅜	+ 1⅛
16⅞	4¼	4⅜	1⅜	N.P.	Indian Ter. Illg. Oil A.	100	1½	1½	1½	0
16⅞	5	4⅜	2	N.P.	do B	.....	....	....	....	....
1/16	1/16	¼	⅛	$5	Intercontinental Pet.	1,100	1/16	1/16	1/16	0
1⅞	¼	1	⅜	N.P.	Kirby Petroleum	500	¾	⅜	⅜	0
1⅜	⅛	⅛	⅛	$25	Leonard Oil Devel.	.....	....	....	....	....
6¾	1⅜	3⅜	⅞	N.P.	Lion Oil Refining	600	1½	1½	1½	— ½
29	5⅜	11	3⅜	N.P.	Lone Star Gas	1,200	7¼	7	7	— ⅛
1⅜	⅛	¼	1/16	1	Magdalena Syndicate	.....	....	....	....	....
5	1⅞	8	3¾	N.P.	Margay Oil Co.	.....	....	....	....	....
4⅜	1⅜	3⅜	1⅜	N.P.	Mexico-Ohio Oil	.....	....	....	....	....
8⅞	1⅜	2	⅜	N.P.	Michigan Gas & Oil	100	1⅛	1⅛	1⅛	+ 1/16
4⅜	1⅜	2⅜	⅜	N.P.	Mid. States Pet. A v.t.c.	200	⅝	⅝	⅝	0
1⅜	⅜	⅜	⅛	N.P.	do B v.t.c.	.....	....	....	....	....
11	¾	2⅜	⅜	$5	Missouri-Kansas P.L.	.....	....	....	....	....
⅝	1/16	1/16	1/16	1	do B v.t.c.	.....	....	....	....	....
⅜	⅛	⅜	⅛	1	Mountain & Gulf	200	¼	¼	¼	0
5⅞	2	4⅜	2⅛	10	Mountain Producers	800	3	3	3	+ 1/16
26⅛	9¾	14	8	N.P.	National Fuel Gas	1,700	12½	12½	12½	0
1⅜	⅜	⅞	⅜	$5	New Bradford Oil	500	¾	¾	¾	+ 1/16
3⅜	1⅜	1⅜	⅜	N.P.	North Central Texas	.....	....	....	....	....
2⅛	¼	⅜	1/16	N.P.	North European	3,100	⅜	1/16	3/16	+ 1/16
5	⅛	5	¼	N.P.	Oil Stocks. Ltd. A	500	3	3	3	0
15	2⅞	8	3	N.P.	Pacific Western Oil	.....	....	....	....	....
⅛	1/16	1/16	1/16	N.P.	Pandem Oil	.....	....	....	....	....
2	⅛	⅜	1/16	N.P.	Pantepec of Venezuela	.....	....	....	....	....
4⅛	¼	⅜	¼	N.P.	Producers Royalty	.....	....	....	....	....
83⅜	49⅞	59¾	40	$100	Pure Oil 6% pfd.	80	40½	37	40½	+ 2
2⅜	⅜	1	⅛	N.P.	Red Bank Oil	.....	....	....	....	....
2⅜	¼	¼	1/16	N.P.	Reiter-Foster Oil	.....	....	....	....	....
11	¼	1	⅛	$25	Richfield Oil pfd.	.....	....	....	....	....
6⅛	1⅛	7⅜	1¼	N.P.	Root Refining pfd.	.....	....	....	....	....
3¼	⅜	⅜	⅜	$10	Royalty Corp. pfd.	.....	....	....	....	....
3	¼	1¼	⅜	N.P.	Ryan Consolidated	200	⅝	⅝	⅝	— 1/16
1⅛	⅛	⅞	⅛	$10	Salt Creek Consol.	7,800	½	⅜	⅜	— 1/16
7⅛	4¾	5⅜	2⅞	10	Salt Creek Prod.	1,500	4	3¾	3¾	— 1/16
7	1	1¼	⅜	25	Shreve. El Dorado P.L.	.....	....	....	....	....
7⅜	3⅜	4⅜	2⅛	N.P.	Southland Royalty	.....	....	....	....	....
5¾	¼	⅝	¼	$5	Sunray Oil	.....	....	....	....	....
12⅞	2⅜	10⅜	4⅜	N.P.	Texon Oil & Land	400	6¾	6⅝	6⅝	— ⅛
24⅜	9⅜	13⅜	7	$25	Union Oil Associates	.....	....	....	....	....
1⅞	⅛	1/16	⅛	5	Venezuela Petroleum	1,000	⅛	1/16	⅛	+ 1/16
3⅜	1⅛	2⅛	1¼	1	Woodley Petroleum	.....	....	....	....	....
2¼	¼	⅝	⅜	N.P.	Y Oil & Gas	.....	....	....	....	....

•New high †New low.

New York Bonds

Week Ending Feb. 11

	High	Low	Last	Change
Asso. Oil Gold 6s	103⅜	103¼	103⅜	+ ⅜
Atlantic Refg. deb. 5s	102¾	102½	102½	— ½
Cal. Pet. 5s	92½	92½	92½	— ½
Cal. Pet. 5½s	94⅜	92½	92½	—2½
General Pet. 5s	104	102⅞	103	— ½
Humble Oil & Refg. 5s	103¾	103¼	103⅜	+ ⅜
Pan Amer. Pet. of Calif. 6s	36	35⅜	35⅜	— ⅜
Phillips Pet. 5¼s	73¼	70	73	+2
Pure Oil 5½s	77	76	76½	— ½
Shell Union Oil 5s	73½	72¼	73½	+ ⅜
Richfield Oil of Calif. 6s	26	25	26	+1
Richfield Oil of Calif. 6s ctfs	25⅜	24	25⅜	— ⅝
Sinclair Con. Oil 7s	99¾	98¼	98⅝	— ¼
Sinclair Con. Oil 6½s	97½	95⅞	96½	+ ½
Sinclair Pipeline	103¾	103½	103¾	0
Skelly Oil 5½s	64½	64	64½	0
S. O. N. J. 5s	104⅞	104½	104⅝	+ ⅛
S. O. N. Y. 4½s	100	98¾	100	+ ¼
Union Oil of Calif. 6s A	105	104⅝	104⅝	— ⅜
Union Oil of Calif. 5s C	100½	100¼	100¼	— ½
Union Oil of Calif. 5s w.w.	84	83	84	—3½
Warner-Quinlan 6s	22½	21½	21½	—1½
White Eagle Oil 5½s	102½	102⅜	102½	+ ⅛

New York Curb Bonds

Week Ending Feb. 11

	High	Low	Last	Change
Cities Serv. 5s '50	34½	33	34¼	— ¼
Cities Serv. 5s '56	34	31½	33⅜	+ ⅞
Cities Serv. G. 5½s '42	51¼	48	51	— ¾
Cities Serv. G. P. 6s '43	63¼	62½	63¼	— ¾
Cont. Oil 5½s '37	97⅜	96⅛	97	— ¾
Gulf Oil 5s '37	101⅛	100½	100½	— ¼
Gulf Oil 5s '47	100¼	100	100	0
Indep. Oil 6s '39	88	88	88	0
Sun Oil 5½s '39	102¼	102	102	0
Sun Oil 5s '34	101¼	101¼	101¼	+ ⅛
Valvoline Oil 7s '37	55	55	55	+1½

Pittsburgh Stock Exchange

Transactions Week Ended Feb. 10, 1933

	Sales	High	Low	Last	Change Over Week
Ark. Nat. Gas pfd	100	2½	2½	2½	— ½
†Col. Gas & Elec.	398	15¼	13⅝	14½	+ ⅜
Devonian Oil	50	7¼	7¼	7¼	0
†Lone Star Gas	3,151	7⅜	7	7	— ¼
‡ do pfd. 6 p.c. conv.	25	70	70	70	—1
‡ do pfd. 6½ p.c. conv.	15	80	80	80	0
Plymouth Oil	100	7½	7½	7½	— ½
‡Standard Oil of N. J.	203	26¾	25¼	26¾	+1½
‡Western Public Service	400	5½	5⅛	5⅛	0

†Payable in new preferred stock; ‡Unlisted.

Pittsburgh Curb

Salt Creek Cons. Oil	500	.25	.25	.25	....

Most Curb Stocks Close 1932 Near Level of End of 1931

CLEVELAND, Feb. 11.

MOST oil stocks on the New York Curb Market closed 1932 at prices close to those that prevailed at the end of 1931. Forty-six of 88 stocks in the accompanying table were off from small fractions to several points. Thirty showed gains for the year. Eight were unchanged. Comparisons are not possible for four new issues.

Most of the companies whose stocks lost ground during the year were affected by crude oil curtailment.

1931 Movement of Oil and Royalty Stocks on New York Curb

Stocks	Shares Sold	Year's High	Month of High	Year's Low	Month of Low	Change from Last Sale	Last 1931 Sale
American Maracaibo	141,300	3/4	Apr.	1/4	Jan.	1/4	— 1/8
Arkansas Nat. Gas	42,400	3 3/4	Aug.	3/4	May	1 5/8	— 1/2
do A	326,500	3 3/8	Sept.	1/2	May	1 1/2	— 5/8
do pfd	33,700	5 5/8	Aug.	1 1/2	July	2 3/4	— 1 3/4
Atlantic Lobos	950	1/4	Dec.	1/8	Mar.	1/8	— 1/4
do pfd	2,200	7/8	Dec.	1/2	May	7/8	+ 1/4
Borne Scrymser	2,350	7	Aug.	6	Jan.	6 1/2	+ 1/2
British American Oil	6,700	9 3/4	Mar.	6 3/4	Dec.	6 3/4	— 2 1/8
Buckeye Pipe Line	8,380	35	Jan.	17 1/2	July	24	— 7
Carib Syndicate	45,200	3/4	July	1/4	Jan.	1/4	0
Chesebrough Mfg	4,760	90	Mar.	53	June	86 1/2	+ 6 1/2
Cities Service	3,632,719	6 7/8	Feb.	1 1/4	May	2 5/8	— 3 1/8
do pfd	83,600	53 3/8	Mar.	10	May	14	—31
do pref. B	4,000	4 1/2	Jan.	1	Nov.	1 1/2	— 2 1/2
do pref. BB	1,970	45	Mar.	9	July	12	—29 1/2
Columbia Syndicate	80,700	1/4	Sept.	1/8	Jan.	1/8	0
Colon Oil Corp	35,600	1 1/4	Aug.	1/4	June	1/4	— 1/8
Columbia Oil & Gas	94,334	2 1/8	Aug.	1/2	May	3/4	— 3/4
Cosden Oil	26,817	2 7/8	Sept.	1/4	May	1 1/2	+ 1
do ctfs	18,900	2 5/8	Sept.	1/8	May	1 1/8	....
do pfd	4,400	8	Sept.	1 7/8	Oct.	2 1/2	— 3/8
do pfd. ctfs	400	6 1/2	....	3	....	6 1/2	....
Creole Petroleum	238,100	3 1/8	Aug.	1 3/4	Jan.	2 5/8	+ 5/8
Crown Central Pet	34,166	5/8	Nov.	1/8	Nov.	1/2	+ 1/8
Darby Petroleum	15,200	7 1/8	Aug.	1 5/8	Jan.	2 7/8	+ 1 1/8
Derby Oil & Refg	15,100	3	Aug.	1	June	1 1/2	0
do pfd	2,050	24 1/2	.....	10 1/2	....	13 3/4	—11 1/4
Eureka Pipe Line	4,100	35	Mar.	18	June	24	+ 3
Gulf Oil Corp	285,427	44 3/4	Sept.	23	June	27	+ 1/4
Humble Oil & Refg	74,660	55	Sept.	35 5/8	June	45	0
Imperial Oil	226,500	10 7/8	Sept.	6 1/4	June	7 7/8	— 5/8
do reg	18,700	10 1/8	Sept.	6 1/2	May	7 1/4	— 1/2
Indian Ter. Ill'g. Oil A	6,950	5	Sept.	3/4	June	2 1/2	— 1 3/4
do B	7,600	4 1/2	Jan.	1 1/2	Dec.	1 1/2	— 3 1/2
Indiana Pipe Line	13,100	7 1/2	Feb.	2 3/4	July	3 1/4	— 3 1/4
Intercontinental Pet	196,100	1/4	Jan.	1/8	Mar.	1/8	— 1/8
International Pet	419,100	12 1/4	Sept.	8	June	10 1/2	+ 1 1/8
Kirby Petroleum	22,700	1	Aug.	3/8	Jan.	5/8	+ 3/8
Leonard Oil	44,100	3/4	July	1/8	May	3/16	— 1/16
Lion Oil Refining	5,325	3 1/2	Aug.	7/8	June	2	+ 1/8
Lone Star Gas	165,500	11	Aug.	3 3/8	April	6 7/8	— 1 1/8
Magdalena Synd	530,100	1/4	.....	1/8	....	1/8	0
Margay Oil	5,200	8	Dec.	3 3/4	Jan.	7 3/4	+ 5 7/8
Mexico-Ohio Oil	16,825	3 3/8	Sept.	1 1/2	June	1 1/2	— 1
Michigan Gas & Oil	14,800	2	Jan.	1/2	Jan.	7/8	— 1 1/8
Middle States Pet. ctfs. A	18,525	1 1/2	Aug.	1/2	Apr.	1/2	— 1/2
do ctfs. B	16,600	5/8	Aug.	1/4	Jan.	1/4	0
Mountain & Gulf	2,200	3/8	Dec.	1/8	Mar.	1/4	+ 1/8
Mountain Producers	57,000	4 3/4	Sept.	2 1/8	Apr.	3 3/8	+ 7/8
National Fuel Gas	106,700	14 5/8	Aug.	8	June	12 5/8	— 1/4
National Transit	18,800	10 1/2	Sept.	6	Dec.	7	+ 1/2
New Bradford Oil	14,735	1/8	Aug.	3/8	Jan.	1/2	0
New York Transit	16,600	6	Sept.	2 1/4	June	3 3/4	— 4 1/8
N. Central Texas Oil	11,700	1 1/2	Aug.	5/8	Jan.	3/4	— 1/8
N. European Oil	52,168	3/8	Jan.	1/8	June	1/8	— 1/8
Northern Pipe Line	9,400	5 1/2	Dec.	3 1/8	May	5 3/8	....
Ohio Oil pfd	52,000	79	Aug.	60	Jan.	74	+ 6 1/2
Oil Stocks	19,080	5	Sept.	2	June	3 3/8	....
Pacific Western Oil	39,500	8	Sept.	3	June	3	— 1
Pantepec Oil	22,000	5/8	Aug.	1/8	June	1/8	— 1/4
Penn Mex Fuel	9,400	10	Sept.	1 3/4	Nov.	1 3/4	— 3 3/4
Producers Royalty	22,500	5/8	Jan.	1/8	June	1/16	— 1/16
Pure Oil 6% pfd	2,630	60 3/4	Sept.	40	July	48 1/2	— 1 1/2
Red Bank Oil	6,750	1	May	1/2	June	1	+ 3/8
Reiter-Foster	23,300	1/2	Jan.	1/8	June	3/8	— 1/8
Richfield Oil pfd	5,600	1	Feb.	1/8	Dec.	1/4	0
Root Refining Co	600	1 1/2	Sept.	1	Apr.	1	— 1
Royalty Corp. pfd	100	1/2	.....	1/2	.....	1/2	0
Ryan Consolidated	5,600	2 1/8	Nov.	5/8	June	7/8	+ 1/8
Salt Creek Cons	9,483	7/8	Aug.	1/8	Jan.	1/2	+ 3/8
Salt Creek Prod	59,472	5 1/2	Sept.	2 7/8	June	3 5/8	+ 3/8
Southern Pipe Line	3,900	10	Feb.	3 3/4	Dec.	3 3/4	— 3 3/4
South Penn Oil	50,200	16 1/2	Aug.	9 5/8	Jan.	11	— 2
Southland Royalty	65,300	5	July	2 7/8	June	4	+ 1/2
South West Pa. P. L	1,350	37	Feb.	27	June	31	+ 2 1/2
Standard Oil, Indiana	1,474,812	25 1/8	Sept.	13 1/8	April	21 3/4	+ 7 1/4
Standard Oil, Kentucky	228,775	15 7/8	Mar.	8 7/8	June	11	— 2 3/4
Standard Oil, Nebraska	6,900	19	Jan.	10 1/4	July	13 1/2	— 4
Standard Oil, Ohio	22,855	30 1/8	Aug.	15 1/2	April	20	— 8
do pfd	480	87	Aug.	75	July	83 1/2	+ 5
Sunray Oil	79,769	5/8	July	1/4	Feb.	1/4	— 1/8
Swan Finch Oil	1,600	2	.....	1 5/8	.....	2	+ 3/8
do pfd	310	15	.....	11 1/2	.....	15	— 2
Swiss Oil Corp	2,000	3/4	.....	3/4	.....	3/4	+ 5/8
Texon Oil & Land	33,900	10 1/2	Sept.	4 1/2	May	7 1/2	+ 2 5/8
Venezuelan Pet	74,300	1/8	Sept.	1/8	June	1/8	— 1/8
Woodley Petroleum	7,700	2 3/8	Dec.	1 1/8	Jan.	2 3/8	+ 1/8
Y Oil & Gas	28,100	1 3/8	Dec.	1/2	Nov.	3/4	+ 3/8

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UP go the profits!

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